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NEWS SUMMARY

GENERAL BUSINESS

Bonn invites Reagan to speak

President Reagan has been invited to address the Bundestag, the lower house of West Germany's parliament, when he visits Bonn in June. He would be the first U.S. President to do so.

The news followed a report in the Welt am Sonntag newspaper that Reagan had been invited and was eager to accept.

Fraser pressure

Australian Premier Malcolm Fraser called a Liberal meeting for Thursday to discuss party leadership following heavy defeat in Victoria's state elections. Page 3

Diplomat killed

French police said they had no clues to the identity of the woman who shot dead an Israeli diplomat in Paris on Saturday. Two Lebanese groups claim responsibility.

Gaddafi visit

Libyan leader Muammar Gaddafi may visit Greece this month, according to the Athens daily Kathimerini.

Training talks

Employers and union leaders will try to reach agreement this week on a plan to provide all 16-year-olds with a year's programme of training, work experience and further education. Back Page

Police probe

Scotland Yard said the Observer's claim that an inquiry is to be launched into alleged London police corruption was "unfounded".

Women picket

Women picketed a women's mens' club conference in Blackpool as part of a three year battle to achieve equal rights.

Tribut protest

About 5,000 people are expected to march through Glasgow next Saturday to protest against the Trident missile.

Cargo ship sinks

Seven crew were killed and three others were missing after a Moroccan cargo ship sank off Vigo, Spain.

Swiss spy claim

Switzerland has protested to the Soviet Embassy in Bern about espionage activities by two of its staff who have since left the country.

Pot-holers found

Two men were rescued from a pit-hole in Bossil Moor near Matlock, Derbyshire after being lost for 24 hours.

Chay returns

The first British yacht to finish the Whitbread round the world race was United Friendly, skippered by Chay Blyth. It came sixth, almost a week behind the Dutch winner Flyer.

Driver run over

A Coventry van driver was killed by his own vehicle which appeared to roll over him shortly after being parked.

Gut reaction

A New York man weighing 57 stone had 147 lbs of fat removed from his stomach by surgery. A special operating table had to be built.

Briefly

About 10,000 marched through Glasgow to protest against the Pope's planned visit. Poland's curfew will be lifted for three days over Easter. Edward Heath arrived in China for a seven day visit.

BP Oil reports £126m losses

BP OIL GROUP, the oil refining and marketing arm of British Petroleum in the UK and the Irish Republic, reported current cost losses for last year of £126m. (236m). Back Page

GILT-EDGED business on the London Stock Exchange jumped 43 per cent to a record £17.89bn last month. Page 23

FRENCH interest rates showed an easier trend as the franc continued to improve within the European Monetary System. The immediate pressure on the EMS seems to have abated, although currencies such as the French and Belgian francs, and the Italian lire are only kept within official limits by very high Eurocurrency interest rates. The Belgian franc remained the weakest member, but well above its alarm bell divergence limit. Firmest currency in the system was still the D-Mark, followed by the Dutch guilder.

SENIOR MINISTERS

have become increasingly belligerent and explicit in their commitment to re-take the Falkland Islands from Argentina, if necessary, by armed force, in the face of continuing Conservative Party anger over Government handling of the issue. The Government's freedom of manoeuvre is now severely limited as the Falkland crisis has become a major crisis of Tory Party confidence in the conduct of foreign and defence policy.

Tory whips were yesterday talking to all back-benchers in an attempt to cool tempers after Saturday's heated and enthralling Commons debate. Intense activity is likely in the next two days to avoid a significant back-bench rebellion after the full-scale debate scheduled for Wednesday.

The political future of both Lord Carrington, the Foreign Secretary, and Mr John Nott, the Defence Secretary, remains precarious.

There are differences between the strong line supported by Mr Peter Shore and the instinctively less belligerent attitude of Mr Michael Foot, who scored a much-needed personal success with a highly effective speech on Saturday.

Having failed to anticipate the invasion, the Government's internal party problem is that many Tory MPs now feel national honour and party credibility can be restored only by re-taking the islands. Nothing, less would be acceptable to them.

Whatever the outcome, there will also be strong pressure for a review of defence strategy, in particular the run-down of some of the surface fleet.

One whip reported after talking to MPs yesterday that while there had been a "steadying" since Saturday, the party was still a long way from being in a position where anyone could talk "reality" about the longer-term position of the Falklands.

Continued on Back Page

Continued on Back Page

Marines destroy helicopter

Argentine corvette damaged

Islanders face military rule

Reinforcements pour in

Diplomatic moves continue

No Cabinet changes imminent

There was cross-party support for a tough line in Saturday's debate. But, as Mr Nott indicated in his interview, the Government expects public doubts and criticism over the coming weeks if there is armed conflict and Ministers will try to tie Labour down.

Tory whips seek to prevent revolt over Falkland Islands

BY PETER RIDDELL, POLITICAL EDITOR

SENIOR MINISTERS have become increasingly belligerent and explicit in their commitment to re-take the Falkland Islands from Argentina, if necessary, by armed force, in the face of continuing Conservative Party anger over Government handling of the issue.

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Continued on Back Page

Continued on Back Page



Mario Menendez, Argentinian-appointed governor of the Falkland Islands, in Buenos Aires yesterday. Troop carriers outside the Falkland Island Company offices in Port Stanley show the strength of the invading forces

Britain is prepared to attack Argentine navy, warns Nott

BY JIMMY BURNS IN BUENOS AIRES AND DAVID TONGE

FIRST elements of the largest British assault force assembled since Suez will set sail for the Falkland Islands this morning.

Mr John Nott, the Defence Minister, warned yesterday that Britain is prepared to attack the Argentine Navy now stationed off Britain's colony, 8,000 miles away in the south Atlantic.

Though stressing Britain's determination to achieve a diplomatic solution, he left open the option of an attack on Argentina itself.

Ministers are under intense pressure from Tory back-benchers to take a tough line. Initial clashes between British marines and invading forces on the main island on Friday left one Argentine officer dead and several wounded. It emerged yesterday that the several hundreds of miles away, a small detachment of British troops opened fire on two Argentine helicopters, destroying one and killing at least three Argentinians.

An Argentine naval corvette is also believed to have been damaged by the British marines, who yesterday surrendered the island without further resistance.

The Argentines had been led to believe that the island was uninhabited, except for unarmed officials of the British Antarctic survey, and a group of Argentine scrap merchants, whose illegal landing on the island two weeks ago sparked off the crisis. There were also unconfirmed reports in Buenos Aires yesterday that six marines had managed to escape from the Falkland capital, Port Stanley, and were organising some resistance among islanders in the interior.

Continued on Back Page

Continued on Back Page

City concerned over block on assets

BY WILLIAM HALL AND GARETH GRUFFITHS

The British Government's decision to block Argentine assets held in the UK and suspend official insurance cover on exports to Argentina will severely disrupt UK trade with the area and present major problems for international banks operating in London.

It is the first time the UK Government has taken action to block another country's assets in London, since Rhodesia declared UDI in November 1965, and several bankers expressed concern yesterday that the move would damage the City's reputation as a neutral international financial centre.

The Government issued a statutory order, the Control of Gold, Securities, Payments and Credits (Argentine Republic) Directions 1982, on Saturday, which immediately took effect. The order, made under the Emergency Laws (Re-enactment and Repeals) Act 1964, prohibits banks from making payments or transferring funds on the instructions of either

the Argentine Government or Argentine residents.

Bank of England will issue notices clarifying details later this week.

Bankers' immediate concerns centre on the impact of the move on their correspondent banking relationships with Argentinian banks, international loans to Argentina and foreign exchange and money market dealings.

Treasury officials said yesterday that the move was not designed to halt all trade with

Argentina but it is clear that it will make the problems of both importers and exporters considerably more difficult.

There were widely differing views in London yesterday about the effect of the move on Argentina's ability to tap the international capital markets.

London-based banks have loaned Argentina \$5.8bn while Argentina only has \$1.4bn on deposit with London banks.

Some bankers said that Argentina would just borrow in the interior.

Continued on Back Page

Continued on Back Page

Reagan refuses to defer tax cuts

BY REGINALD DALE, U.S. EDITOR IN WASHINGTON

PRESIDENT Reagan has again refused any deferral of his tax-cutting programme despite soaring budget deficits, and has rejected quick solutions to America's economic problems.

Mr Reagan, who is struggling to recapture the political initiative in the face of mounting opposition to his budgetary and economic policies, launched a novel series of five-minute radio broadcasts at the weekend.

They are intended to take his message directly to the American people without having it filtered through or truncated by reporters and editors.

Mr Reagan's quick-talking defence of his programme came after the New York Times had reported that his administration believed that the 1983 budget deficit would be \$124bn (almost £70bn) against the initial February estimate of \$91.5bn—even if his controversial budget is adopted in its entirety.

While Mr Reagan declined to comment on the report, the Office of Management and Budget said that updated budget

estimates due at the end of this week would include "some technical revisions which might increase the deficit slightly," but not on that scale.

Mr Reagan said that interest rates were breaking all the rules of the game by refusing to fall, and should come down significantly. "To do this, a signal must be sent that, while the political process always requires some compromise, government this time intends to stay the course," he said.

He said that the broadcasts reminded him of his earlier work as a radio sports commentator, when he earned \$5 a game broadcasting Iowa university football games nearly 50 years ago. Mr Reagan tacitly conceded that his economic recovery programme had been slow to take effect. It would only really start with the 10 per cent tax cut due on July 1, he said.

Last autumn he gave October 1, 1981, when his first 5 per cent tax cut took effect, as the starting date for recovery.

Mr Jim Wright, the House Democratic leader, urged the President in an official response, to reconsider his "one-sided" tax cuts.

FT business survey optimistic

BY MAX WILKINSON, ECONOMICS CORRESPONDENT

A GENERALLY more optimistic view of Britain's economic prospects is shown by the latest Financial Times Business Opinion Survey published today.

The survey in March showed a moderately improved perception of the general business situation, with a better trend in recent deliveries and orders, somewhat improved capacity utilisation and greater buoyancy about the prospects for exports.

The companies interviewed, in the building and construction, food and tobacco and textiles and clothing sectors, confirmed the general expectation of past surveys that wage increases would remain in the

7 per cent to 8 per cent range. The trend in unit costs continued cautiously downwards, but a slightly higher level of price increases was expected at an annual 9 per cent. This may reflect the generally improved outlook for profit margins which the survey has shown in recent months.

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CONTENTS

Argentina: behind the euphoria	18	Lombard: Sue Cameron on lead in petrol	19
U.S.: why Reagan's support is slipping	19	Justinian: Falklands sovereignty defined	15
Technology: new moves to sighted robots	7	Editorial comment: the Falklands crisis	18
Management: oiling the wheels for women in industry	16	Survey: Electronic Components	9-14
Arts	17	Int'l. Co. News	22
Appointments UK	24	Law	20
International	22	Labour	18
News	24	Leaders	18
Building Notes	18	Letters	18
Business Diary	8	Lombard	18
Company News	20	Money & Exchange	26
Crossword	17	Money & Exchange	26
Entertain. Guide	17	Money & Exchange	26
Finance Diary	8	Parliamentary Dry	24
Insurance	8	Rising	19
Int'l. Cap. Markets	21-22	Share Information	25-29
Technology	7	ANNUAL STATEMENTS	
TV and Radio	7	Scott. Econ. Inv.	20
UK News	4-5	Lat. Group	22
Unit Trusts	27		
Weather	30		
World Econ. Ind.	3		
World Stock Mkt.	3		
World Trade	3		

THE FALKLAND ISLANDS INVASION

Export cover suspension will hit UK trade

BY PAUL CHEESBRIGHT, WORLD TRADE EDITOR

NEW BRITISH business with Argentina will be severely restricted, following the Government's decision to suspend export insurance cover on goods destined for that country.

The decision, made as part of a package of economic constraints to put pressure on Argentina, was described yesterday by the Export Credits Guarantee Department (ECGD) as a "precautionary measure."

The cover can be resumed whenever the Government thinks fit and therefore, is different from an independent decision by the ECGD to refuse exporters the insurance they

demand because of deteriorating commercial conditions. Such refusals have been made in the case, for example, of Iran.

Existing contracts, already covered by ECGD, are not affected, however. About 60 per cent of British exports to Argentina, running at £172.8m in 1980, are backed by the ECGD. This is double the worldwide average.

Most new business in Argentina has in recent years been generated through the provision of general purpose lines of credit provided by the commercial banks but supported by the ECGD.

The immediate problem for the Department is to decide whether to continue cover on the unused portion of any outstanding credit lines. Some £40m has been offered to Argentina over the

past 13 months through such lines of credit, most of them of medium-term maturity.

These lines of credit have been provided in accordance with international guidelines. Lately the rates of interest have been

10.5 per cent on credits of up to five years. The Government has bridged the gap between this rate and the market cost of the funds. The suspension of export credit cover bears heavily on exporters of capital and semi-capital goods, which are mainly sold on credit terms of between six months and five years.

British exports have been bunched mainly into this general category, which embraces specialist machinery and transport equipment. ECGD cover has been historically light at the short-term end of the market, usually associated with consumer goods, and at the long-term end, usually associated with capital projects business.

Total ECGD exposure in Argentina is less than £300m, indicating that, as a trading partner, Argentina has been of marginal importance. By contrast, its exposure in Poland is nearly £1bn and in Romania £405m. But, especially over the last two years, there has been a greater effort on the part of both Government and exporters to expand sales and win a larger slice of the imports market. Linked to Argentinian development plans, the menace for the Department is that, in the wake of the suspension of cover, Argentinian buyers may feel emboldened not to honour existing obligations, further straining its already tight financial position.

Spain gives veiled backing to Argentina

By Robert Graham in Madrid

THE SPANISH Government has distanced itself sharply from the EEC by declining to back Britain over the Falklands and giving veiled support for the Argentine action.

At the same time, there is concern here that the issue could complicate negotiations with the UK on the future of Gibraltar. These are due to begin on April 20, when Spain re-opens the frontier to the

U.S. makes clear it would oppose recapture of islands

BY REGINALD DALE IN WASHINGTON

THE REAGAN Administration is making it clear that it will be prepared to mediate, if asked, in the Falkland Islands dispute, in which it has repeatedly called on Argentina to withdraw its forces and restore the status quo.

However, it is also making it equally clear that it would oppose any British attempt to recapture the islands by force.

The invasion has confronted the Administration with a dilemma, which, it openly admits, it would prefer not to have to face.

Britain is, of course, a Nato ally, although the Falkland Islands are outside the alliance's operating area, which extends only as far south in the Atlantic as the Tropic of Cancer. Argentina, on the other hand, is one of the principal Latin American countries to which the U.S. is looking for support in its efforts to stem the tide of guerrilla warfare in El Salvador and other countries of Central America.

Officials in Washington feared if Britain were to use force, most Latin American countries would rally behind Argentina. The U.S. would not want to be seen as publicly supporting the British action.

Bank to explain details of freeze

By William Hall

BANK OF ENGLAND officials were working over the weekend in order to be able to respond sensibly today to inquiries from banks and traders about the impact of the Government's decision to freeze Argentinian assets.

Following the abolition of UK exchange control in October 1979, the Bank has dismantled its facilities for dealing with inquiries, but is expecting to deal with the current situation by issuing notices giving further details within a few days.

The Government implemented its decision to freeze Argentinian assets in Britain by laying a statutory instrument, the Control of Gold, Securities, Payments and Credits (Argentine Republic) Directions 1982, before Parliament last Saturday. It took effect immediately.

The preamble to the instrument says that "the Treasury are satisfied that action to the detriment of the economic position of the UK is being taken or is likely to be taken by the Government of or persons resident in the Argentine Republic" and is issuing directions under section 2 of the Emergency Laws (Re-enactments and Repeals) Act 1964.

The directions prohibit (except with Treasury permission) any recipient in the UK, the Channel Isles or the Isle of Man of an order from the Government of or any person resident in the Argentine Republic from paying out that order in so

as the order requires the recipient to make any payment or to part with any gold or securities or requires any change to be made in the persons to whose credit any sum is to stand or to whose order any gold or securities is to be held.

Government officials were anxious to play down the effects the measures would have on London's standing as a neutral international financial centre. They stressed that they were not confiscating Argentinian assets as ownership would remain with Argentinian residents.

TASK FORCE PUTS TO SEA TODAY

Naval blockade is likely first action

BY BRIDGET BLOOM, DEFENCE CORRESPONDENT

MR JOHN NOTT, the Defence Secretary, yesterday reaffirmed that Britain's political objective in the Falklands was to re-establish British administration there, if necessary by force. "A very large naval task force" will today be on its way to the South Atlantic, he said.

Orders to the task force to engage Argentine forces have not yet been given. If and when they are, the vessels could take two weeks to reach the area — there will be two main military options: blockade of the islands or their invasion. Both present serious problems.

A blockade is initially the most likely. Argentina is said already to have up to 5,000 troops on the two main islands, and an invasion could hardly be mounted without substantial risk to the lives and "freedom" of the 1,800 Falkland Islanders whom the British operation would be designed to protect.

The Defence Ministry is releasing only scant details of the task force. It has acknowledged that HMS Invincible, the newest aircraft carrier (which has actually been sold to Australia for delivery in 1983) leads the force, together with the carrier Hermes and the two ageing assault ships, Fearless and Intrepid (repreived from Mr Nott's defence cuts only last month) is due to leave from Portsmouth today.

It is believed, but not confirmed, that nearly 20 other warships which were last week engaged in Exercise Springrain off Gibraltar are also being sent south, although there were conflicting reports yesterday from Gibraltar that they had actually sailed. Additionally, at least two Royal Fleet Auxiliary tankers,

Merchant ships warned

BRITAIN'S MERCHANT fleet has been advised by the Government to stay out of Argentine waters during the crisis over the Falkland Islands, writes Andrew Fisher.

At the weekend there were no British vessels in any Argentine ports, but a 15,000 tonne general cargo carrier, the Banbury, has been ordered by its owners to remain in Montevideo until further instructions were given.

The Banbury, originally due to sail to Buenos Aires on Tuesday is carrying a cargo of manufacturing goods for Argentina, and was to take on wool for export to Europe. The ship is part of the only regular service operated from Britain to Argentina. Known as BHLR — an abbreviation of the separate lines involved — it is run by Blue Star Line and Furness Withy.

Mr William Kirkbride, general manager of Furness Withy, said the service covered Brazil, Uruguay and Argentina and earned gross freight revenues of some £30m a year. But business was larger before Britain joined the EEC which has strict quotas on meat exports from Argentina. BHLR runs two refrigerated container ships and seven general cargo vessels.

Although the service was not a major part of the company's activities Mr Kirkbride said: "We are quite concerned and have also advised some of our expatriates in Argentina to go to Montevideo in the interim period."

Another BHLR ship, the Devon, left Buenos Aires about 10 days ago with a refrigerated meat cargo. The Derwent, a general cargo ship was about to start loading at Liverpool for its South America trip before the crisis.

Merchant ships warned

If a blockade is instituted, British would declare that Argentine ships would have a certain number of days to pull out beyond a specified radius of the islands — probably 200 miles. Any ships remaining after that time would be attacked and sunk.

The ensuing battle would not be a "gunboat" battle in the 19th century sense — guns have gone out in favour of highly sophisticated anti-air and ship-to-air missiles on both sides. Britain's aim would presumably be either to kill an Argentine ship, or more likely to cause such damage to the Argentine navy as to bring about a political change of mind.

If that did not work, the British force would be left with little military alternative but to withdraw or try to invade. It must be assumed that Argentine troops, with air defence, would have dug in massively by this time.

Britain would need first to try to neutralise enemy strong points, principally by an assault from the air, before being able to land commandos in a helicopter-borne assault. Strategists acknowledge that such an attack (which would presumably also have to involve South Georgia, 800 miles from the main islands) would not only be difficult but almost certainly costly in lives.

Naturally, those advocating it have seen an attack would be successful, though no one denies that the subsequent need to prevent the Argentinians trying to recapture the islands would have to involve a substantial fleet based permanently in the area.

Texaco are among the companies interested in the region's oil. Large deposits of coal and other minerals, from silver to molybdenum have been discovered.

Air Commodore Brian Frow, director general of the Falkland Islands Office, claimed yesterday that oil was at the heart of Argentina's decision to invade.

A BP spokesman said: "There is a promising seismic evidence but until we have done a lot of drilling there we can't be sure what oil is actually there."

UK claims to Antarctic resources at risk

BY HUGH O'SHAUGHNESSY, LATIN AMERICA CORRESPONDENT

BRITISH BASES in Antarctica have been taken over and Britain's claim to a share in the potentially large mineral and fishing resources in the southern continent has been put in jeopardy by Argentina's seizure of the Falkland Islands and South Georgia.

The Cambridge-based British Antarctic Survey maintains six permanent stations in Antarctica and two which are manned only in the summer. The BAS, whose annual budget is under £6m, is the principal

official British presence in the continent, a slice of which — between latitudes 20 and 60 degrees West — is claimed by Britain as the British Antarctic Territory. Argentina also claims sovereignty over most of this area.

The Territory has been officially administered from Port Stanley and its governor has been the governor of the Falkland Islands and Dependencies. Last year the Treasury sought to cut the BAS budget and have the base at Grytviken

on South Georgia closed.

Last October, it was announced that Britain was to replace the base at Halley early in 1983 at an estimated cost of £1m and also replace, at an estimated cost of £4m, Britain's biggest Antarctic research vessel, HMS Shekleton.

The U.S. Government has estimated that the recoverable offshore oil reserves in and around the region amount to billions of barrels, comparable in magnitude to those of the North Sea BP, Arco, Exxon, Gulf and

Texaco are among the companies interested in the region's oil. Large deposits of coal and other minerals, from silver to molybdenum have been discovered.

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Paris stresses 'solidarity' with Britain

By David White in Paris

FRANCE GAVE repeated assurances over the weekend that it stood by Britain over the Falklands crisis. M Claude Cheysson, the Foreign Minister, expressed "solidarity" with London, both in a telephone conversation with Lord Carrington and in a meeting with Argentina's ambassador in Paris, according to officials.

President Francois Mitterrand also spoke by telephone to Mrs Margaret Thatcher on the issue on Saturday. The French Government said it intended to keep in close contact with London, but officials gave no further details of the weekend's conversations.

The Argentine ambassador was received at his request by M Cheysson.

Backbenchers tighten noose round Nott in Commons debate

BY IVOR OWEN

ON THE RARE occasions when a United House of Commons goes for the kill, Ministers become acutely aware of the invisible trapdoor upon which they are forced to stand when called to the Treasury despatch box to explain the reasons for an ignominious failure.

When the Commons concluded its emergency sitting on Argentina's invasion of the Falkland Islands on Saturday, Mr John Nott, the shell-shocked Defence Secretary, was beginning to show the tell-tale signs of terminal failure which usually mark a speedy departure to political oblivion. He stood alone by the despatch box collecting his speech notes as ministerial colleagues left the Chamber without speaking to him.

The attempts made from the Tory benches to tighten the noose already in place around his neck underlined the truth of an old Westminster maxim — in politics our opponents sit in front of us and our enemies behind us.

Mr Nott's unhappy and uncharacteristically ineffective performance when he replied to the debate made Tory backbenchers squirm, and one orientally buried his face in his hands. The debate ended in uproar, and Mrs Thatcher sat with her head bowed and looking strained. Some Conservatives, including Sir Frederick Burden, whose Gillingham constituency is being hit by the Chatham dockyard closure, shouted "resign, resign" at Mr Nott.

The fact that the Defence Secretary is still in office can be in part explained by the terms upon which he was offered the post by the Prime Minister.

Mr Nott marched into the Ministry of Defence building in Whitehall in January 1981 brandishing an economy axe and the service chiefs soon discovered that it was no idle threat. As every well-informed Tory backbencher knows, it was a weapon which his predecessor Mr Francis Pym had refused to employ to anything like the extent demanded by Mrs Thatcher. He offered to resign rather than ask any one of the three services — particularly the Royal Navy's surface fleet — to operate below the strength and level of efficiency necessary to

satisfy the requirements of Britain's foreign policy commitments, including the honouring of the pledges given by successive governments to defend the Falkland Islands.

Saturday's debate produced some striking similarities and a number of remarkable contrasts to the far more stormy events which rocked the Commons just over a quarter of a century ago when MPs last met for an emergency Saturday sitting.

On November 3, 1956, the House was noisily and totally divided with Sir Anthony Eden, the Prime Minister, who had ordered the RAF to start bombing Egyptian airfields some 48 hours earlier, still the hero of the hour on the Tory benches.

leader, who had warned from the start that the Opposition would support British intervention in Egypt only if the Government had secured the prior approval of the United Nations, was subjected to venomous attacks for persisting with his "law not war" campaign when he knew that British forces were engaged in combat and a further Anglo-French invasion force was likely to start fighting its way along the banks of the canal at any time.

A remarkable transformation of roles on Saturday saw Mrs Margaret Thatcher give a stunning performance as she tried to put a veneer of respectability on the Government's failure to mount the naval and military operation needed to prevent Argentina's invasion of the

Falkland Islands.

On the other hand, Mr Michael Foot, in the most authoritative and impressive speech he has delivered in the Commons since becoming leader of the Opposition, was praised from the Tory benches for having "spoken for Britain" in maintaining that settlement was unprovoked aggression must not be allowed to go unchecked.

While firmly declaring the Government's aim to repossess the Falkland Islands, Mrs Thatcher was never at her best. She is painfully aware that the very fact that the Conservative Party's image makers have devoted so much effort to presenting her as the Iron Lady as she squares up to the Soviet Union's President Brezhnev must inevitably expose her to

ridicule after the Government's display of ineptitude in protecting British interests.

Equally alarming for the Prime Minister was the chilling response of the Tory benches at crucial points in her speech. As Selwyn Lloyd, Foreign Secretary at the time of Suez, acknowledged later there is nothing more disheartening for a Minister than "cold, disapproving, apparently inarticulate silence." This was something which Sir Anthony Eden experienced after the abandonment of the Suez operation.

Peru, one of whose citizens, Sr Javier Perez de Cuellar, is now the UN Secretary General, said the root cause of the problem was Britain's usurpation, "act of plunder" and installation of a foreign population in the Falklands.

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OVERSEAS NEWS

Fraser set for showdown over party leadership

BY MICHAEL THOMPSON-NOEL IN SYDNEY

A SHOWDOWN over Mr Malcolm Fraser's leadership of the Australian Liberal Party has been set for Thursday. The Prime Minister announced last night that he was calling a meeting of the Parliamentary Liberal Party to face up to the leadership issue and "end the speculation once and for all". His move followed the Australian Labour Party's sweeping success in the Victorian state elections at the weekend. Mr Fraser faces a challenge to his leadership from Mr Andrew Peacock, a former Cabinet Minister, who repeated his call yesterday for a "change of direction" in federal Liberal policies. He spearheads a section within the Liberal Party that is critical of Mr Fraser's handling of the economy, and worried by the party's waning political fortunes. The swing to the ALP in Victoria is estimated at 43 per cent—more than twice what it needed to wrest power. The state had been in Liberal hands since 1955. Of the split in the Liberal ranks, Mr Fraser said in Melbourne: "If by our own division we help bring about the circumstances in which Labour's socialism can again have the opportunity to destroy Australia, we should hang our heads in shame." Estimates of Mr Peacock's support range from 20 to 40 members of the 81-strong Parliamentary Liberal Party, though he has not yet delivered a formal challenge to Mr Fraser. Mr Bill Hayden, the Federal Opposition leader, said yesterday that the Victorian election had been largely fought on state issues. But he claimed that the Government's loss of credibility, its "disastrous handling" of the national economy, and its internal conflicts, had played a role too.

Opec may be retreating from clash with companies

BY ROGER MATTHEWS

THE ORGANISATION of Petroleum Exporting Countries may be backing away from an immediate confrontation with the international oil companies over the level of production in Nigeria. Dr Oteiba said so far as he knew all the companies operating in Nigeria had made a favourable response. But if it is confirmed that oil companies or any other side have taken measures against any member country to force it to reduce its production by refusing to execute a contract, at that time we will hold an emergency meeting immediately. Dr Oteiba again suggested that the companies were playing a political role in attempting to force Opec into price cuts. "Their position with regard to Nigeria is a good example of this. We will continue to support Nigeria to sell its quota which was set in Vienna." There were further reports in the Gulf yesterday that Saudi Arabia was considering another cut in its production levels. After the Vienna Opec meeting, the Saudis dropped their production by 500,000 barrels to an average of 7m a day.

PLO awaits 'retaliation'

BY HSIAN-HUJAZI

PALESTINIAN GUERRILLAS in Lebanon are braced for a possible Israeli retaliation after Jerusalem accused the Palestine Liberation Organisation of responsibility for the assassination in Paris on Saturday of Mr Jacov Broasimantov, an attaché at the Israeli embassy. The diplomat was shot and killed by an unknown woman who then escaped. Mr Meir Rosen, the Israeli ambassador in France, was quick to blame the PLO. The accusation was later repeated in a statement issued in Jerusalem by the Foreign Ministry. A spokesman for the PLO denied the charge and added the guerrilla group knew nothing about an obscure faction which claimed responsibility for the killing. An anonymous caller told Press offices in Beirut "the Lebanese armed revolutionary factions" were responsible for the murder of the Israeli diplomat. He added that "more surprises should be expected."

Spadolini fights to save coalition

By Rupert Cornwell in Rome

SIG GIOVANNI SPADOLINI, the Italian Prime Minister, this week faces his toughest task yet in preventing the collapse of his five-party coalition, sending the country almost certainly into general elections later this year. His first challenge comes today when he attempts to defend the row between Christian Democrats and Socialists over accusations by the former acted improperly in paying a ransom for the release of Sig Ciro Cirillo, a Naples party councillor held last year by the Red Brigades terrorists. The Christian Democrat leadership, ever more embarrassed by the ramifications of the Cirillo affair, have demanded the Minister's sacking. But with the implicit backing of his party, he has maintained his charges. Even if Sig Spadolini does find a compromise to satisfy both sides, he still faces potential trouble over the 1982 Finance Bill, for which several dangerous confidence votes may be required if its approval is to be secured before Easter as scheduled. Sig Bettino Craxi, the Socialist leader, yesterday promised his party's backing to push the Finance Bill vital for what remains of the Government's economic policy, on the statute book. At any time thereafter, however, might come the moment of reckoning, he implied.

EEC budget talks

Key negotiations by EEC Foreign Ministers on cutting back Britain's payments to the Community budget will now take place on April 27 in Luxembourg, writes John Wyles in Brussels. The Ministers had been due to meet on Saturday, but the session was postponed because the Falkland Islands crisis prevented Lord Carrington, the British Foreign Secretary, from attending.

Gromyko visit

Mr Andrei Gromyko, the Soviet Union's Foreign Minister, arrived in Belgrade on Sunday for a two-day visit and the first high-level contact between Moscow and Yugoslavia in the post-Tito era. AP reports from Belgrade. Mr Gromyko will confer with Mr Sergej Kraljic, head of Yugoslavia's collective Presidency and Mr Dusan Dragsavac, President of the Yugoslav Communist Party.

Herd destroyed

A herd of cattle and pigs was destroyed in Denmark yesterday as foot-and-mouth disease struck again dashing hopes that the epidemic on the island of Feunen had ended. AP reports from Copenhagen. It was the 12th confirmed case since the virus, assumed to have reached Denmark from East Germany, set off the alarm two weeks ago. More than 2,500 head of cattle and pigs have been killed.

WORLD TRADE NEWS

EUROPE'S PETROCHEMICAL CRISIS

Substantial decline in exports outlook

BY SUE CAMERON, CHEMICALS CORRESPONDENT

EUROPE'S loss-making petrochemical and plastics producers have closed 4.8m tonnes—14.7 per cent—of their effective capacity over the last 15 months, according to analysts at W. Greenwell, a stockbroking firm. But Greenwell says that "nowhere near enough" plants have yet been shut down. It stresses that in the "worst" product areas between 30 per cent and 40 per cent of capacity needs to "disappear." Greenwell spells out the extent of Western Europe's overcapacity in such products as ethylene—the so-called building block of the petrochemical industry—and major plastic materials like polyethylene, polypropylene and polystyrene. It welcomes the fact that "at long last the European industry has begun to bite the bullet." But it warns: "The European petrochemical and bulk plastics industries are still engaged in a fight for survival—any helter that time or others can solve the problems for it is a sure recipe for lasting and total disaster." Greenwell's survey suggests that since the end of 1980 West European producers have shut down some 18 per cent of their effective ethylene capacity, 27 per cent of low density polyethylene capacity, 9 per cent of high density polyethylene, 8 per cent of polypropylene, 6.5 per cent of polystyrene, including expanded polystyrene, and 7 per cent of polyvinyl chloride (PVC). These closures are described as "encouraging." But the Greenwell report warns that Europe "must not lose sight of

Major Petrochemical Companies Trend Toward Specialisation % of total sales

Table with 2 columns: Company Name, % of total sales (1979, 1980)

the build-up of petrochemical and plastics capacity in the Middle East. The report says that by 1990 it expects the Middle East and North Africa, which are currently developing petrochemicals and plastics industries of their own, to have

a 650,000-tonnes-a-year surplus of low density and a 210,000-tonnes-a-year surplus of high density polyethylene plastic. "As a result of these, and other, moves to muscle in on the traditional producers, prospects for most European exports of petrochemicals and plastics are poor," the report says. "For example, net exports of bulk plastics could drop from the current level of around 1m tonnes a year to a mere 400,000 tonnes a year by 1990."

The Greenwell report goes on to say that the answer to the industry's problem cannot lie in a "wholesale shift of the bulk producers into specialty chemicals and plastics." Specialisation can only be justified if you have the technical and existing skills in the chosen area.

U.S. groups win major Indonesian plant deals

By Richard Lambert in New York

U.S. COMPANIES have won contracts for two major projects in Indonesia. Kaiser Engineers and Kaiser Aluminum, two unrelated companies, are taking a leading role in the construction of a 600,000 metric tonne a year alumina refinery. Total cost of the alumina plant will eventually be \$900m.

At the same time, Kellogg Overseas Corporation, along with Kobe Steel and Toyo Menka Kaisha of Japan, has been awarded a contract worth around \$350m to supply a fertilizer complex in East Kalimantan.

The alumina facility will be built on Bintan Island, south of Singapore, for P. J. Aneka Tambang, a Government corporation. The bauxite supply will be mined locally and most of the production will be shipped to a new smelter on Sumatra Island. Production is to start in 1985.

Kaiser Engineers, a unit of Raymond International of Texas, will provide design, engineering and technical services for the contract. Technical assistance will come from Kaiser Aluminum.

The fertilizer project which has been awarded by P. T. Pupuk Kalimantan Timur (Kaltim) is for a 1,500 metric ton a day fertilizer ammonia plant, a 1,725 metric-ton-a-day urea plant and various associated facilities. This project is also expected to go into operation in 1985.

Kellogg, a member of the M. W. Kellogg group of companies, will provide technology for the ammonia plant. Technology for the urea plant will come from Stamicarbon, for which Kellogg is a worldwide licensee.

SHIPPING REPORT

Revenue crisis deepens for world's shipowners

BY ANDREW FISHER, SHIPPING CORRESPONDENT

MOST SHIPOWNERS are scarcely able to pay their crews and cover other direct operating costs in the present dismal state of world shipping markets. Lambert Brothers Shipping said in its latest review. As a result, shipowners were having to find more cash from within their companies or from outside to cover losses, or to renegotiate or defer loan payments. Another alternative, Lambert added, was to entrust the care of their fleets to professional managers of large fleets able to cut costs through economies of scale.

Speaking in Oslo last week, a leading expert in shipping finance emphasised that owners should now be looking at restructuring their loans rather than waiting until times became really bad. Mr J. Magne Haga, a general manager of Christiania Bank said: "Wise shipowners will come to see us on deferrals and refinancing some to 12 months before events occur."

He told journalists that his bank was now talking to customers to suggest deferrals of loan interest repayments. "There has been very little deferral yet and that worries me." Mr Haga said his remarks were not meant to refer only to the Norwegian industry, but to the whole shipping world.

Zimbabwe order for UK

BY OUR WORLD TRADE STAFF

WADE ADAMS Construction of the UK, in a joint venture with Andrews and Kidd of Zimbabwe, has been awarded the contract for the raising of the Sebakeke Dam near Que-Que in Zimbabwe. Wade Adams/Andrews and Kidd won the Z\$13.5m (£10.5m) contract against competition from Roberts Construction, Cementation International and Gulliver/Fairough.

The project is scheduled to run for three years and involves raising a concrete dam wall, prestressing and earthworks. The Weir Group has won a £8m contract from U.I.E., a member of the French Amrep group, to supply and design a water injection system for the Meren offshore oil field in Nigeria.

World Economic Indicators

Table with 4 columns: Country, Jan '82, Dec '81, Nov '81, Jan '81

The Alternative Approach to Banking

THE HIGHER THE MANAGER/CUSTOMER RATIO THE FEWER DISSATISFIED CUSTOMERS.

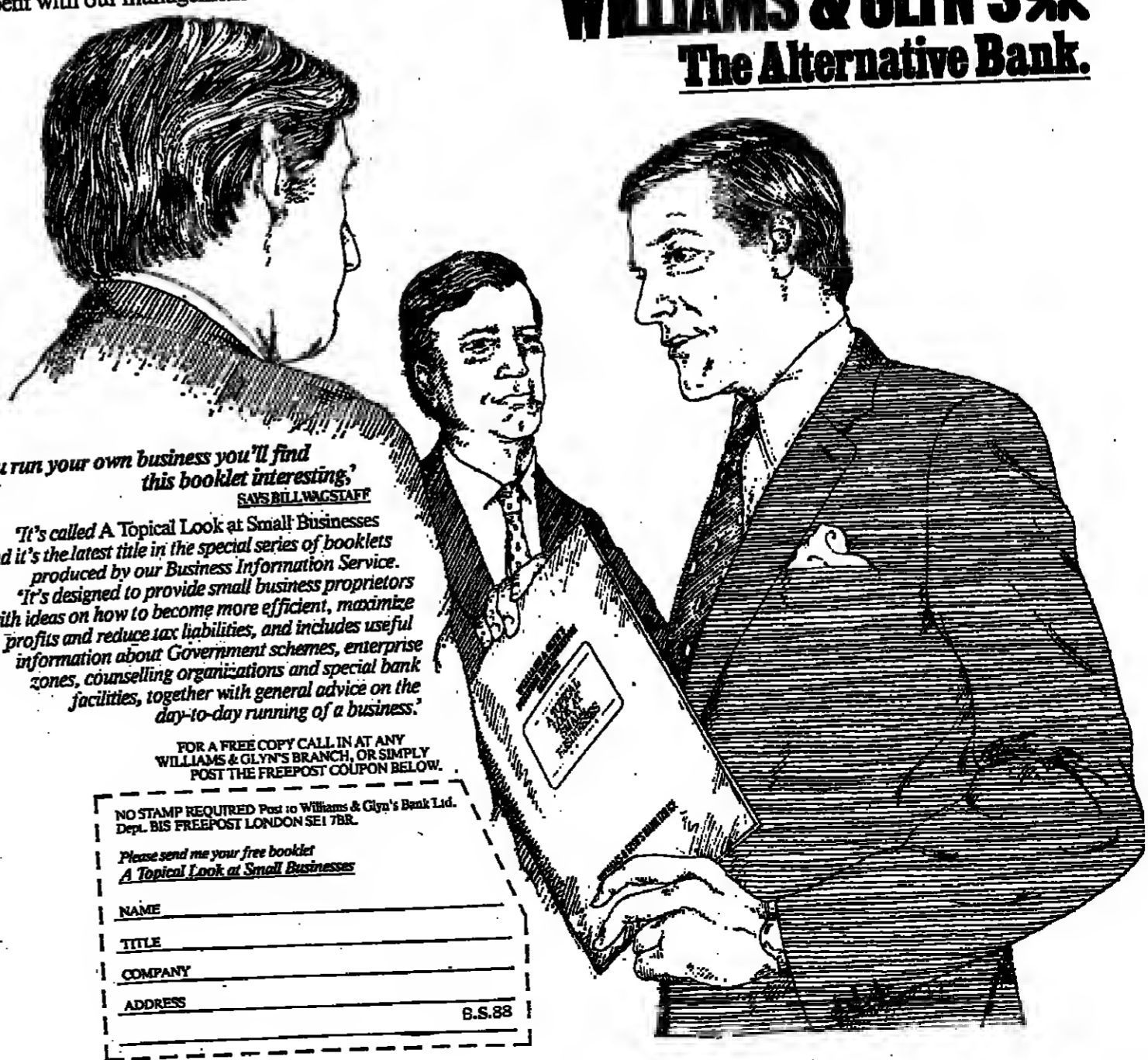
We have more managers per customer than the other main High Street banks. That, in our view, is the way it should be, and that's the way we aim to keep it. It gives us distinct advantages over other banks which new customers are quick to recognise; particularly business customers, for whom it is supremely important to have ready access to their local branch management at all times. And at all places. Our managers make a point of visiting customers on their own ground as often as possible, to make sure they have a really thorough appreciation of each particular business and the kind of financial problems and opportunities that can be anticipated. And the time spent with our management can be that much

more valuable, too, because the tightly-knit way we're structured means that our managers in their turn have ready access to all our top banking specialists, who are always ready to attend meetings, give on-the-spot advice, and when necessary make on-the-spot decisions.

It all adds up to a whole new approach to banking, a refreshing change from the kind of branch management lethargy that is so often generated by ponderous pomposity at the top.

So if you see your bank manager once in a blue moon, don't wait for the next blue moon, come and see us. We welcome dissatisfied customers.

WILLIAMS & GLYN'S The Alternative Bank.



If you run your own business you'll find this booklet interesting.

It's called A Topical Look at Small Businesses and it's the latest title in the special series of booklets produced by our Business Information Service. It's designed to provide small business proprietors with ideas on how to become more efficient, maximize profits and reduce tax liabilities, and includes useful information about Government schemes, enterprise zones, counselling organizations and special bank facilities, together with general advice on the day-to-day running of a business.

FOR A FREE COPY CALL IN AT ANY WILLIAMS & GLYN'S BRANCH, OR SIMPLY POST THE FREEPOST COUPON BELOW.

Form with fields for Name, Title, Company, Address and S.S.88

This is an Invitation to Buckle Down in the State of ARKANSAS

They call Arkansas the "buckle" of America's Sunbelt. Its central location puts a market of over 100m people within 550 miles reach—just 24 hours by road. And the newly opened Arkansas River Waterway connects the heart of the State with the port of New Orleans and thence to Europe and Latin America.

Over 140 top US corporations, as well as several European and Japanese companies have all located manufacturing plants in the state.

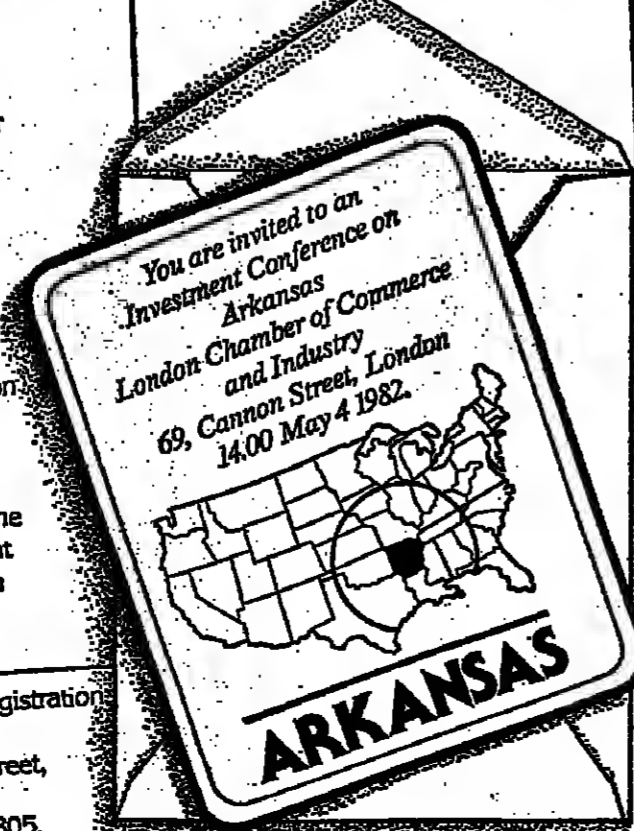
COME AND FIND OUT WHY at a complimentary half-day seminar and reception on May 4 at the London Chamber of Commerce and Industry. The meeting will feature presentations by key business and civic leaders from Arkansas and the State's European Industrial Development Office.

Members of the delegation will also be available for individual appointments on May 5.

These are just some of the reasons why one independent study rated Arkansas the fifth most attractive US state for business and industry.

For further information or registration contact Ian Weatherhead at the Chamber, 69 Cannon Street, London EC4N 5AB. Telephone 01-248 4444 ext. 305.

- low taxes, attractive finance—for land, buildings, and plant, free site searching, low labour costs and a unique 'right-to-work' law that makes for smooth industrial relations, free training programmes for new manufacturers, cheap and abundant energy—gas, oil, coal or hydro, a Foreign Trade Zone (FTZ) located on the Arkansas River Waterway.



UK NEWS

CBI supports existing local rates system

BY ALAN PIKE

THE Confederation of British Industry, which has been campaigning against the rates burden on industry, has told the Government the rating system should not be less than the mainstay of local taxation.

The confederation also says business ratepayers should have the same right as domestic ones to pay rates by instalment.

It calls for cuts in local spending by leaving some services to private and voluntary sectors by raising efficiency and by tailoring provision to real consumer need.

Severe price-cutting in the North has led to a collapse of private-sector industrial prices, according to a survey published today by the CBI's northern region.

Large companies are likely to come under increasing pressure from social and economic trends to split their businesses into smaller units, according to Sir Adrian Cadbury, chairman of Cadbury Schweppes.

Trend is to small units, Cadbury chief says

By Alan Pike

Large companies are likely to come under increasing pressure from social and economic trends to split their businesses into smaller units, according to Sir Adrian Cadbury, chairman of Cadbury Schweppes.

Small groups want to set public pay levels

BY PHILIP BASSETT, LABOUR CORRESPONDENT

PAY in small companies should be used to determine levels for the Civil Service, according to the Association of Independent Businesses.

It has been a source of considerable vexation that in the Civil Service, both pensions and redundancy payments have been so very much out of line with what can be afforded by our members.

Brixton: The tough task of converting words into action

SINCE THE riots in Brixton, thousands of words have been written about this south London inner-city area. They include a major report by Lord Scarman, some of whose recommendations are increasingly arousing controversy.

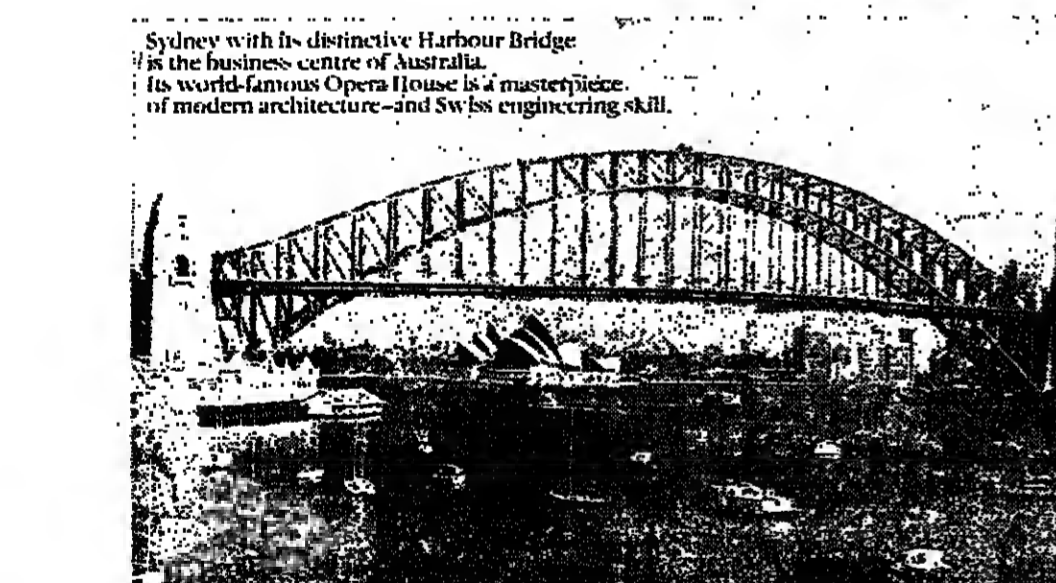
A year after the riots, Lisa Wood looks at what is being done to halt the decline of the area

Lambeth Council may have to pick up the bill. Mr Ted Knight, leader of the Council, said: "We are not putting up any obstacles to these projects, but are taking care to point out that the voluntary groups should be planning revenue costs."

distance of Brixton and who, in the council's view, should not be opposed by small groups in the community. "At the same time, Mr Knight said: "Once we deposit the plan and, if there is a public inquiry, the Environment Secretary can intervene."

Levels of economic growth of the 1950s and 1960s are unlikely to return this century, Sir Adrian says. Businesses would have to operate in the present unpredictable environment and accept the likelihood that it would become less rather than more stable.

Somewhere around the world a branch of the key Swiss bank is always open for business.



Sydney with its distinctive Harbour Bridge is the business centre of Australia. Its world-famous Opera House is a masterpiece of modern architecture—and Swiss engineering skill.

Business never sleeps. Whether in Sydney, Zurich, London or Tokyo, there's a stock exchange open and the latest gold fixings, indexes, and market ups and downs are being cabled round the world.

Singapore, Atlanta and elsewhere. The phones start ringing and another day begins—with trade financing, foreign exchange, underwriting, investment management, etc. etc. etc.



Swiss Bank Corporation Schweizerischer Bankverein Société de Banque Suisse

The key Swiss bank.

General Management in CH-4002 Basle, Aeschenvorstadt 1, and in CH-8022 Zurich, Paradeplatz 8. Over 190 offices throughout Switzerland. Worldwide network (branches, subsidiaries and representatives): Europe: Edinburgh, London, Luxembourg, Madrid, Monte Carlo, Paris, North America: Atlanta, Calgary, Chicago, Houston, Los Angeles, Montreal, New York, San Francisco, Toronto. Latin America: Bogota, Buenos Aires, Caracas, Lima, Mexico, Panama, Rio de Janeiro, São Paulo. Caribbean: Grand Cayman, Nassau. Middle East: Bahrain, Cairo, Tehran. Africa: Johannesburg. Asia: Hong Kong, Singapore, Tokyo. Australia: Melbourne, Sydney.

FT story leads to cash boost for furniture maker

BY RHYTH DAVID

AN AMERICAN business man is to invest £100,000 from his own resources in a small Liverpool reproduction furniture manufacturing company, after reading about its activities in the Financial Times in August.

Under the deal arranged on Friday between the Simpsons and their surprise benefactor, Mr Logan will take a sleeping 49 per cent stake in a new limited company which is to be formed. Describing his stake as an investment in the Simpsons and their ideas Mr Logan said yesterday he would be playing only a very limited role in the company which would be left to develop as it saw best.

The company, Gostins, specialises in producing copies of period furniture and has made a point of recruiting into its labour force—now 30 strong—unemployed youth, and of training them in cabinet-making skills. It is planning to open a training workshop for 100 young people with sponsorship from the charity, the Rathbone Trust, and with financial aid from the Maopower Services Commission this autumn.

Mr Logan said: "I have spent all my life in the petroleum industry where one never sees the end product, and I was looking for an interest as far away as possible from oil. Furniture fitted the bill because it is tangible and beautiful. At the same time this is a company which is preserving old skills and training the young to work with their hands."

BIM guide to help expanding companies

A CHECKLIST to help smaller companies thinking of buying another business has been published by the British Institute of Management.

Shotton gasholder to be blown up

A WELSH industrial landmark will disappear today when a 155-foot high gasholder is blown up at Shotton steel works, North Wales.

Business failures soar in first quarter

TRADE INDEMNITY, the credit insurance underwriters, has disclosed a 15 per cent increase in business failures in the first quarter of 1982 compared with the same quarter of 1981.

NatWest to help small engineering groups

NATIONAL Westminster Bank is to sponsor a move by the London Enterprise Agency to help small engineering companies.

£400,000 air payout

Castle Donington the east midlands airport near Derby, has doubled to £400,000 the share of operating profits it pays to the local authority consortium which owns it.

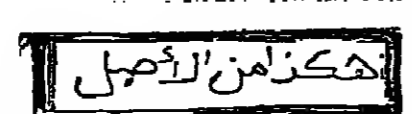
Chariots of Fire

In Thursday's story in the Financial Times about film financing in the wake of the Oscar successes of Chariots of Fire, it should be made clear that the Twentieth Century Fox Film Corporation and Allied Stars were 50/50 partners in providing \$3m each for the film's production finance.

Countryside Commission opens up to the public

THE COUNTRYSIDE Commission, which was made independent last week, has launched a new prospectus opening up its policies and priorities to public comment.

Table with columns for bank names and interest rates. Includes entries for A.B.N. Bank, Allied Irish Bank, Amro Bank, etc.



Top earners start to pay higher NI contributions

BY ERIC SARGT

THE START of a new financial year means various adjustments in tax payments by individuals. For the past three years it has also meant increases in the National Insurance contributions paid by employees and the self-employed — contributions that can be regarded as a social security tax.

From this week employees earning at least £220 a week will pay an extra £3.75 a week on NI contributions if they are in the state scheme and £3.32 if they are contracted out.

A self-employed person earning £11,000 a year will pay an extra £67.33 a year.

These increased payments, which were announced by Sir Geoffrey Howe, the Chancellor, at the beginning of December, arise from two factors. All employees are having their contribution rates increased by 1 per cent for the second year in succession, though the rates for their employers remain unchanged. Secondly, both employees and employers will have those contribution rates applied to higher earnings limits because of inflation.

The Government has been quietly changing the financing structure of the National Insurance scheme, putting more of a burden on to employees and reducing the direct cost to the Treasury.

For the second year running the amount of Treasury supple-

	1982/83 weekly contribution £	1981/82 weekly contribution £
Not contracted out		
Employee	12.12	11.52
Employer	19.25	15.50
Contracted out		
Employee	10.71	8.55
Employer	14.49	11.17
Self-employed		
Employee	15.13	15.02
Employer	21.57	19.62

	1982/83 annual contribution £	1981/82 annual contribution £
Not contracted out		
Employee	656.00	604.17
Employer	1,000.00	770.67
Contracted out		
Employee	456.00	444.17
Employer	648.00	570.67

*Includes NI surcharges at 3% per cent, and other charges.

ment to the NI fund is reduced, this year from 14 1/2 per cent to 13 per cent of combined employee-employer contributions. To compensate, the contribution rate by employees is increased by 1 per cent.

The Government believes that more of the cost burden of the National Health Service should come from direct contributions rather than coming

entirely from direct taxation. A further 0.1 per cent of the rate increase goes towards the NHS.

The remaining 0.65 per cent of the rate increase arises to meet the costs of higher unemployment. The Government has decided that such increased costs should be met by those employees still working rather than by employees and employers. It has kept the extra NI contribution burden on employers to a minimum.

The earnings ceiling on which contributions are levied is being raised from £200 to £220 a week in line with inflation. The lower earnings limit under which people earning below this figure do not pay NI contributions is lifted from £27 to £29.50 per week.

Sir Geoffrey announced in this year's Budget that the NI surcharge rate on employers' contributions is being reduced by one point to 21 per cent. But this will not come into effect until August. This surcharge is effectively a payroll tax with the contributions going straight to the Treasury. They are not paid to the NI fund.

The self-employed are having their flat rate weekly Class 2 contribution, paid by all self-employed, increased by 35p to £3.75. In addition, the Class 4 rate is lifted from 5 1/2 to 6 per cent of annual profit between £3,450 and £11,000.

Retirement tax relief boosted

TWO SMALL, but welcome, extensions are proposed to the scheme of tax relief for retirement annuity premiums paid by a self-employed person. Since an individual gets tax relief on his contributions up to 17 1/2 per cent of his relevant earnings. If the individual was born before 1916, the amount on which tax relief is given is to

be increased. Some small increase has been allowed in the figures for older savers, but the real change is for those born between 1916 and 1983. They will now get tax relief on 20 per cent of relevant earnings instead of 17 1/2 per cent.

This is a welcome assistance for those in their 50s who see retirement approaching.

Similarly, partnerships are able to take tax relief on annuities paid to retired partners; under the present law, these annuities may be increased in line with inflation each year. The amount of the annuity is linked to the retired partner's earnings for the best three out of his last seven active years.

Maiden flight for new Euro Airbus

By Michael Donne, Aerospace Correspondent

THE LATEST version of the European Airbus, the 210-seat A-310, made its maiden flight from the Airbus Industrie's flight test centre at Toulouse on Saturday.

The aircraft was airborne for 3 hours 15 minutes, in what was described as a perfect test flight. The aircraft will now move into an extended flight test programme, prior to certification and delivery in March, 1983, to the launching customers, Swissair and Lufthansa.

The A-310 is built by Airbus Industrie, in which British Aerospace has a 20 per cent stake, building the wings and also having an overall design consultancy role in the aircraft. The A-310 is designed to carry up to 210 passengers over short to medium ranges. It is a twin-engine aircraft, with operators having the choice of U.S. General Electric CF6-80A or Pratt and Whitney engines.

Orders for 180 A-310s have been placed by 15 airlines. Of these 90 are firm orders and the others are options. The feature of the aircraft is its substantially lower fuel consumption, claimed to be up to 35 per cent less per seat than older-generation narrow-bodied jet airliners, giving savings of up to \$2m (£1.1m) a year in fuel costs at today's prices.

Five A-310s will be involved in the flight test programme. The first two aircraft, powered by Pratt and Whitney engines (destined for Swissair), and the third aircraft, powered by General Electric engines (for Lufthansa), will be used for the actual flight tests. The fourth and fifth aircraft off the line (destined for Lufthansa and Swissair respectively) will be used for route-proving trials.

Why inland post is carried by air

Jason Crisp describes a night flight delivering the Post Office mail



Glyn Gunn

EVERY WEEKDAY night at around 11 o'clock an assorted collection of 16 aeroplanes takes off from all corners in Britain to rendezvous at Liverpool airport or midnight. It is thought to be the largest movement of civil aircraft in the UK at night.

At Speke, in a sudden and brief flurry of activity, a million letters change hands and the aircraft fly back to their original airports. The Post Office is now sending about 10 per cent of all first class mail by air freight at night. Until about two years ago, it sent all its long distance mail by rail.

Each night, 43 travelling Post Office trains criss-cross the country with postmen on board sorting the mail while travelling at speeds of up to 100 mph. In addition, ordinary passenger trains carry mail.

The problem is that the timing of departures and the reduction in train services over the years means it is physically impossible to get a letter posted late in, say, Devonshire to Aberdeen by next morning, by train services.

Air transport of mail began after the Post Office came under heavy criticism for the quality of service which had dropped to an appallingly low level. Because of this, the Government included provisions in the British Telecommunications Bill, passed last year, which sanctioned it to lift the mail monopoly if services fell below certain standards.

The Post Office has a Government-set target to deliver 90 per cent of first class letters on the following working day, which it is now close to meeting.

British Rail carries around 70 per cent of the mail and the Post Office is one of its largest customers. During the rail strike, the volume of air freighted mail rose sharply, diminishing the impact of the action on mail delivery.

The aircraft are chartered from five different airlines—Express Air Services, Iceli Aviation, Eastern Airways, Jersey European Airways, and Dan-Air. They fly from 13 destinations including Belfast, Aberdeen, Exeter, Cardiff,

Bournemouth, Bristol, Glasgow and Gatwick.

Last week I flew with Dan-Air on the Gatwick to Liverpool flight which then goes on to Belfast. The aircraft was a British Aerospace 748 turbo-prop, with the seats folded and stacked along the side of the passenger compartment. The aircraft was filled almost to the ceiling with mail bags which weighed 41 tonnes, and were held in place by large nets and harnesses. By the following morning, the seats were to be back in place and the aircraft was used for ferrying passengers. (It normally carries a maximum of just under 50 passengers.)

At Speke, the 16 aircraft are parked in a close group and are rapidly unloaded by about 30 airport authority staff. The mail bags are moved to a small warehouse for sorting by the Post Office where there is a staff of 18.

Eleven postmen sort the bags. They cry out the destination of each bag for a checker to note before inconspicuously lobbing it into a ring

of large trolleys each marked with a different location for the returning aircraft. By about 1.30 am the operation is complete, with 4,500 bags weighing 45 tonnes flying on to major sorting offices around the country.

The operation is centred on Speke because it is approximately equidistant from the other airports, is open at night and is relatively fog-free.

The Post Office also has a fleet of seven aircraft chartered from Air Ecosse for Datapost its premium overnight service which was originally launched to carry computer tapes around the country. The aircraft have been painted Post Office red with the Datapost livery, and fly to 10 centres around the country, including Speke.

Datapost now has over 20,000 contract customers and carries a wide range of urgent goods from parts to documents. The carriage of urgent documents was one of the small areas which was opened up for competition by the British Telecommunications Act.

Threat of 50% jobless in Dungannon

BY OUR BELFAST CORRESPONDENT

THE PROPOSED closure of a Courtauld's fabric dyeing and finishing plant at Dungannon, Northern Ireland, will make the area Europe's worst unemployment blackspot, according to a group representing the 300 employees.

The campaign to save the Brown and Adam dye works, part of the Moygashel fabric company, has been taken up by Northern Ireland's three-European MPs. They believe the

closure will cast doubt over the remaining 460 jobs in the Moygashel group.

With representatives of the employees, the European MPs will meet Mr Adam Butler, Minister of State for Northern Ireland, tomorrow to ask what support the Government will give to a £3.4m proposal to modernise the works.

Union leaders and other members of the works committee will fly to London

tomorrow to seek support for the proposal from Mr Christopher Hogg, the Courtauld's chairman.

Courtauld's announced last month that it proposed to close Brown and Adam because of high costs and to transfer the work to Samuel Heaps.

The workers' committee said yesterday that according to local management, a government offer of 5 per cent of the cost of modernisation would provide the basis for negotiations.

Midlands plea for action on Japan

BY ARTHUR SMITH, MIDLANDS CORRESPONDENT

THE West Midlands regional council of the Confederation of British Industry is urging the Government to take immediate action to improve the balance of trade with Japan.

There is a feeling that the industrial base of the region is being eroded, Mr Steve Rankin regional director, said last night. "We are fast running out of time. There must be immediate action," Mr Rankin said com-

panies representing the full range of industry had expressed strong views about the threat.

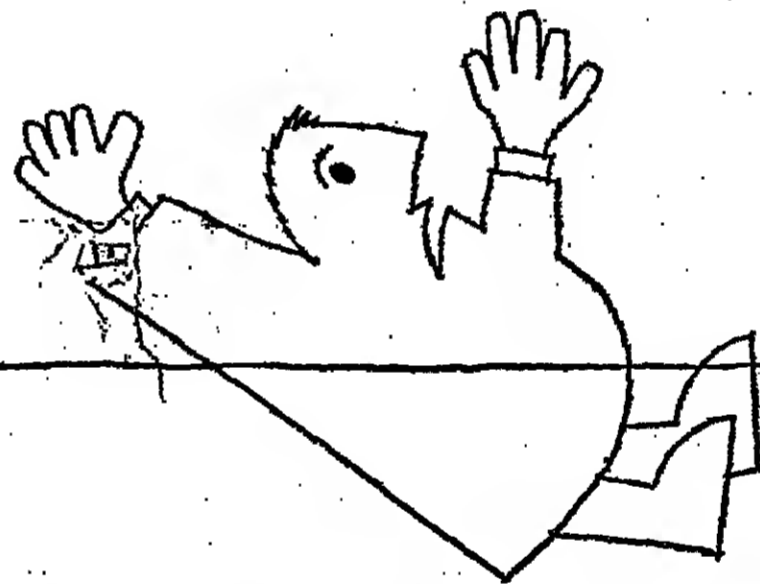
There was a need to make Japan open its market to European companies and to curb the flow of Japanese imports.

An initiative might be taken on a national or an EEC basis. The CBI was already pressing the case but companies in the West Midlands thought the situation needed to be treated with urgency. "The Japanese

ship first and talk later," Mr Rankin said.

On the economic front, West Midlands companies reported growing resistance to low pay settlements. Many had deferred any award but average deals were between 4 and 6 per cent.

It was thought that although this level could be sustained for a period, the upwards pressure was building. The shakeout of the labour market seems likely to continue.



Have you recently found yourself becoming an involuntary non-profit organization?

The earnings reports of many companies are experiencing a widespread outbreak of parentheses. (We mean those depressing bow-legged punctuations that signify operating losses in balance sheets.)

In fact, the problem of diminishing profitability is widespread enough to have acquired an aura of immutability, something like a law of contemporary economics... making it sound almost audacious to suggest the problem is solvable.

Perhaps it's time for a little audacity... and a Data General ECLIPSE computer.

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inventories carried unprofitably, back orders being filled tardily, cash flow problems... those areas where profits often erode unseen by management.

It isn't surprising, then, to find an ECLIPSE computer turning up in so many profit-making organisations, like Express Dairy Foods, North Thames Gas and Guinness Group Sales (Ireland).

In fact, many of the largest and most successful British companies in banking, industry, distribution and services are using Data General computers. Is this a stunning coincidence or a considerable profit opportunity?

Those who still believe in opportunities are invited to write for particulars to: Marketing Communications, Data General Limited, 3rd and 4th Floors, Hounslow House, 724-734 London Road, Hounslow, Middlesex TW3 1PD. Tel: 01-572 7455.



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UK NEWS = LABOUR

John Lloyd looks at the closed shop in our concluding feature on Tebbit's Bill

Rights for those who will not join a union

ONLY ONE part of the Employment Bill was a complete surprise: that was Clause 1, which enables "the Secretary of State to make payments towards compensating individuals who in certain past cases have been dismissed for failure to conform to the requirements of a union membership agreement (closed shop)."



Curiously, the inspiration for the clause came to Mr Norman Tebbit, the Employment Secretary, from a report which, though still unpublished, is thought not to be particularly critical of the closed shop. Professor John Gemaru, of Strathclyde University, undertook a major study of the institution in 1978, financed by the Employment Department. One section of the report notes that about 325 individuals were dismissed from their jobs between 1974 and 1980 because they refused to join closed shops.

been so far unsuccessful in eliciting from Mr Tebbit details of those who will benefit from the fund. His department has said that further research needs to be done. However, one group which may be representative of all is the so-called "Hull Six"—six Hull City Council employees dismissed for refusing to join a union once Hull had agreed a closed shop in 1978. Of the six, five were manual workers, and included a building foreman, a plumber and a museum attendant. Only one—Mr Peter Armstrong, an archaeologist—was of officer grade. Mr Armstrong, now in his mid-thirties, had been employed by the council for six years when he was told he would be required to join a union. He was, he says, opposed to "the way it was done," an objection which appears the other five shared. "The thing just seemed so cut and dried. There was no balloting of the staff. It was just said that this was now a condition of employment. It was the result of a process on which

TWO CLAUSES extend the restrictions on the closed shop to include:
● In Clause 1, a measure to pay state compensation to workers dismissed for not joining a union closed shop between 1974 and 1980;
● In Clause 10, a measure to make void any term in a contract specifying union labour only, and making it unlawful to discriminate against a contractor on union membership grounds.

I had not been represented. I think that each of us in our own way thought we had been deprived of that wonderful freedom of voting with our feet." Ironically, Mr Armstrong now says he appears likely to be forced to enjoy that freedom. He is employed by another authority—Humber, which will shortly cut its archaeological staff from eight to two. Mr Armstrong's case, and that of his colleagues, has been championed by Mr Philip Hamer, a Hull solicitor. He has secured a ruling from the European Court that the Hull Six's case would fall under the same judgment terms as those of the dismissed railwaymen whose case was won in Strasbourg last year. Mr Armstrong believes they will all receive compensation from the £2m fund once the Employment Bill is enacted. The final measure on the closed shop in the legislation was thoroughly expected.

port and General Workers' south-east region, argued powerfully at a left-wing trade unionists' conference last weekend that this measure in the Bill could set the construction industry alight. That same weekend it became clear that the print unions, especially the National Graphical Association, had told the other unions that they would simply defy the clause—and would expect TUC support for doing so.

Both construction and the print have proved combustible areas for industrial law in this last decade, and could be so again. The building trade employers wanted the clause, and must now be willing to use it, gambling that the very high levels of unemployment will damp down incipient flames. Will the unions convince their members to defend the closed shop in all its ramifications? And if they do, will they wait for an employers' attack which never comes? Mr Goldsmith, and the Government with him, believes the issue to be one of personal freedom and the securing of greater efficiency through breaking the degree of control unions exercise on work practices. The unions argue that personal liberty can be ensured but only if bargaining strength is secured first and that attacks on the closed shop are an invitation to disruption. The battle still waits on a battleground.

Scunthorpe steel job cuts agreed

Financial Times Reporter
UNIONS and management at British Steel Corporation's Scunthorpe works have reached agreement on a programme of 702 redundancies to be implemented before July 31.

The new redundancy plans will reduce the workforce at BSC's Scunthorpe works to 8,914 against a total of almost 20,000 five years ago. As a result, unemployment among men in the town is expected to top 50 per cent. Under the agreement signed by the Iron and Steel Trades Confederation, the main union, and a number of smaller unions, steelworkers are to be encouraged to take voluntary redundancy with an immediate pension at the age of 55 in the case of men and 50 in the case of women. Scunthorpe's BSC works is expected to make a profit of £20m-£25m for the 1981-82 financial year.

GMWU ballot on Labour leader sought

BY JOHN LLOYD, LABOUR EDITOR

CALLS FOR membership before the block vote is cast for leader or deputy leader of the Labour Party are included in the preliminary agenda for the annual conference of the General and Municipal Workers Union in May. Further motions regret the GMWU's executive decision to vote for Mr Denis Healey in the deputy leadership election last year, claiming that the vote did not reflect union policy.

A number of resolutions also express concern over the spilt in the Labour Party, and the Buxton branch calls for a vote of no confidence in the party "because it has disregarded its duty to the working class that it is representing during its time in opposition." One motion calls for "serious and urgent consideration to any future financial aid we may contemplate giving to the Labour Party because of the infiltration of the Militant Tendency, while another condemns the party's decision to conduct an inquiry into the far left group. The sole motion on membership of the European Community could result in a switch in the union's position if it is debated. Last year the GMWU's switch from qualified support of the EEC to opposition was instrumental in swinging the TUC into an anti-EEC position. The motion is proposed by

Oldham, which urges "that the next Labour government renegotiate new terms of membership of the EEC that will be of more benefit to the UK, or alternatively withdraw membership from the EEC." If carried, the motion would bring the union to a broadly pro-EEC position and might have a similar effect on the TUC. A number of senior TUC figures have expressed doubts about the anti-European policy.

Bank union warns staff of new technology jobs threat

BY BRIAN GROOM, LABOUR STAFF

THE BANKING, Insurance and Finance Union is launching a spring campaign to alert workers to the dangers of redundancies resulting from the introduction of new technology on employers' terms. The union's executive has agreed to advise members "when necessary" to obstruct the introduction of technology by employers who have refused

new technology agreements. Bifu has met little success in persuading employers to sign agreements which would protect jobs from technological change, and give the union a substantial say in decisions on equipment. The clearing banks, in particular, accuse Bifu of "secessionism" about the employment effects of new technology, and believe that it is merely trying to resist by spreading fear. Actual developments include the point-of-sales terminals, newly automated "in-store" banking, increasing numbers of auto-tellers, and "stand-alone" computers tend to dominate gatherings of union activists, but often meet apathy among staffs generally. Mr Leif Mills, Bifu general

secretary, said that while no specific flashpoints had yet arisen over new equipment, there had been concern over rationalisations linked to technological change. Bifu cites job reductions at Midland Bank's head office, and redundancies at Lombard North Central, a National Westminster hire purchase and leasing company.

Call for equal pay laws to be strengthened

BY JOHN LLOYD, LABOUR EDITOR

A CALL for the strengthening of existing laws and greater union organisation to improve women's pay is made today by the Low Pay Unit. The unit's report, Women: Work and Wages, says women earn less than 75 per cent of male average earnings for every hour worked. They comprise 90 per cent of the low-paid though they represent 30 per cent only of the paid workforce. The report says the movement towards equal pay between 1970-76 has halted and in some cases been reversed in the past few years. The report's authors base their findings on research done for the Employment Department in the 1970s. They say employers have been able to evade equal-pay laws by moving men or women out of jobs to avoid equal-pay comparisons. It says the main reasons for low pay among women workers is that they are concentrated in the traditional low-wage industries or are in lower grades of better-paid sectors. Women

Insurance staff vote today on 8% wage offer

By Our Labour Editor

LEGAL AND GENERAL staff vote today on an 8 per cent pay offer from the company which union officials have already rejected. Mr James Terry, divisional officer for the Association of Scientific, Technical and Managerial Staffs, said last night that the offer was derisory and he expected overwhelming rejection. The union organises about half of L and G's 5,000 staff. Mr Terry said company profits had risen by 36 per cent in the past year, and dividends paid to shareholders had risen by 44 per cent.

Perkins claim

SHOP STEWARDS representing 5,000 production workers at the Perkins diesel engine plant at Peterborough, Cambridgeshire, have demanded a 12 per cent pay rise. The increase would give £13 more a week to senior skilled men

BUSINESSMAN'S DIARY UK TRADE FAIRS AND EXHIBITIONS

Table with columns: Date, Title, Venue. Lists various trade fairs and exhibitions from April 7-14 to May 11-13.

OVERSEAS TRADE FAIRS AND EXHIBITIONS

Table with columns: Date, Title, Venue. Lists international trade fairs and exhibitions from April 14-23 to May 11-14.

BUSINESS AND MANAGEMENT CONFERENCES

Table with columns: Date, Title, Venue. Lists various business and management conferences from April 5-6 to May 19.

Anyone wishing to attend any of the above events is advised to telephone the organisers to ensure that there has been no change in the details published.

Financial Times Conferences

WORLD ELECTRONICS — The U.S., Japan and Europe: Competition or Collaboration? London — June 9 and 10, 1982

Japan's emergence as a major world force in electronics and the resulting reactions in the United States, long used to industry leadership, and in Europe are the main themes of this conference. Many vital issues of business strategy and public policy are raised by this conference with expert commentary by the impressive panel of speakers in government and the industry from Japan, the United States and Europe. They include Mr Gordon Moore, Chairman of the Board Intel Corporation; Mr Taiyu Kobayashi, Chairman of the Board Fujitsu Limited; Mr Lionel Olmer, the U.S. Under Secretary for International Trade; Mr Keiya Toyonaga, Adviser to MITI; Mr C. van der Klugt, Vice Chairman of Philips Industries; and Sir Richard Cave, Chairman of Thorn EMI plc.

THE ECONOMICS OF NATURAL GAS DEVELOPMENT Venice — June 21 and 22, 1982

This important FT energy seminar, co-sponsored by Jensen Associates of Boston, is to be held in Venice immediately following the IGU meeting in Lausanne. The sponsors believe that the occasion will provide a unique opportunity to assess the future for gas in developing countries, and the programme will include speakers from Thailand and Mexico who will be outlining their development proposals. A special feature of the programme will be a presentation where the issues and constraints related to natural gas development will be considered by a panel of four speakers from the World Bank. Registrations will be limited.

All enquiries should be addressed to: The Financial Times Limited Conference Organisation, Minister House, Arthur Street, London EC4R 9AX. Tel: 01-621 1355. Telex: 27347 FTCONF G. Cables: FINCONF LONDON.

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TECHNOLOGY

EDITED BY ALAN CANE

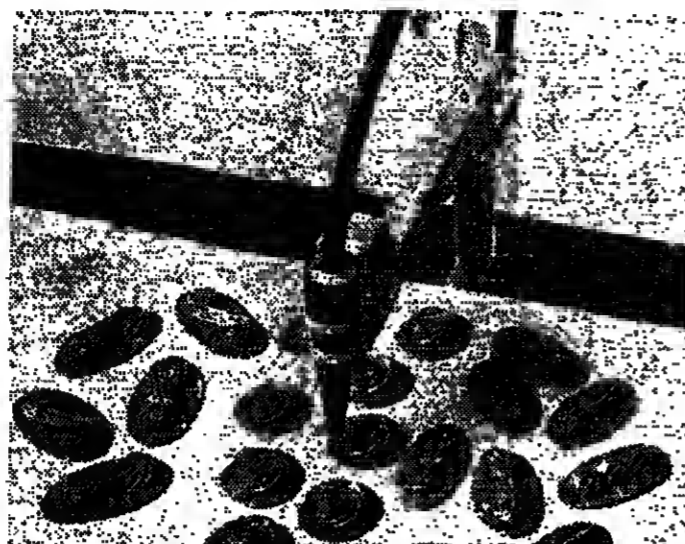
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Geoffrey Charlish on new moves to sighted robots in the factory

Vision from lab to shop floor

IF TOMORROW'S automation systems, ranging from robots to automatic inspection machines...

thresholds can be set so that a rather obscure crack in glassware can be "seen" in appropriate illumination...



Based on analysed images from a TV camera placed further back down the line, this robot is able to decorate precisely the tops of chocolates...

Microwave link offers cheaper communications

THE HOME OFFICE has granted GE (U.S.A.) a demonstration licence for its Gemlink microwave fixed link equipment...



Testing a Gemlink system at GE's Owensboro, Kentucky, plant

Equipment has been offered in this private users' band at various times but has not been cheap and has really only attracted users with large amounts of information to transmit.

GE (U.S.A.), by employing a solid-state Gunn diode oscillator as the microwave source and operating at low power has kept the cost down to £2,250 for a system that will transmit and receive at 9600 band.

Using a straight receiver this gives a range of about 2 km, with the superhet version about 8 km. The equipment is small and unobtrusive; it weighs only 10 lb and looks a little like a spotlight.

offering these systems as a cost-effective alternative to dedicated lines and to other systems using lasers and infrared techniques.

At the moment, these bands are relatively uncluttered says GE. Since no cable is required, no wayleave problems exist so that in urban areas

point-to-point communications between the dishes, mounted on rooftops of business premises, opens up an interesting prospect, particularly in the banking and financial world.

In fact, the band will support about several hundred channels. Because the range is restricted to a few kilometres, presumably each town could use the same set of channels without mutual interference.

GE (U.S.A.) is working on a high speed data system that can handle multiplexed signals over a 2 km range. It will be available in the summer. Applications might include connection of remote terminals to mainframes in factory computer systems, or perhaps CAD, and use as a cost effective trunk line between private FAXES in different buildings.

In an article in Sensor Review not long ago, Professor Batchelor pointed out that although vision systems work in the laboratory, their transportation to the shop floor is another matter.

An unusual example of robot vision, developed by Patrice of Cambridge was provided by A. J. Cronshaw. An (unnamed) confectionery manufacturer had the problem of applying lines, whisks, chevrons and other piped chocolate patterns to the top of chocolates on a conveyor belt.

The supposition, which proved correct, was that a small robot decorating arm would produce a more constant result than a human operator.



A television camera is placed before the robot arm

over the conveyor. Each chocolate's image (there are eight types) is digitised and stored so that its location on the conveyor, its centre of area and the angle of its sides (if triangular or rectangular) or its major axis can all be computed from the stored data.

The data also defines the type of chocolate (say, a hazelnut whirl or a walnut truffle). The correct instructions can therefore be compiled rapidly and fed to the robot arm's drives. The arm goes to each chocolate and applies the right pattern precisely.

shapes of each passing component are derived as a unique code that will then tell, say, a paint spraying robot what pattern of spraying to employ.

One of the applications tackled by British Robotic Systems required the visual system to recognise any one of about 5,000 small pieces of pipework and then present each of them on an indexing table to a robot. The robot correctly orients itself to grasp the item and presents it for several machining operations.

Justified

Peter Heywood of BRS emphasised that the robot or visual system alone could not be justified; together, they form a cost effective system with built-in flexibility for the future.

But there is a big difference, said Heywood, between what can be done in a laboratory and its practical realisation on the shop floor. Robustness is the key—of people and systems

Optical disc holds 1.25 gigabytes

USING THE Drexler "micro-hole" system of data recording, the Drexler Technology Corporation of Mountain View, California has designed an advanced optical memory disc, 12 inches across, that can hold 1.25 gigabytes (billions of bytes, or words) of data on one side.

This is equivalent to the storage capacity of 50 14-inch, two-sided magnetic disc platters used in removable magnetic disc packs. However, it should

be borne in mind that the system is "read-only," in that once the data has been recorded it cannot be altered.

Basically the Drexler process records data instantly by laser beam melting of microscopically sized holes (up to five microns across) in an otherwise reflective surface.

The Drexler II process will be used for the new discs, in which the contrast of the holes to the reflective surface has been increased by 50 per cent and

signal-to-noise ratio improved. Faster, better defined lipless holes have been achieved allowing coding to be varied by varying the spacing between the holes or by changing the lengths of the holes.

Drexler has already been offering disc products and these will now be available in Drexler 2, at prices 50 per cent below previous prices in most cases. Typically, the new price for 30 of the 300mm discs will be \$700 each compared with

\$1,400 each. The company says that the price could drop to \$100 when production volumes reach 100,000 discs annually.

Recently Drexler announced plans for a \$7.8m plant for expanded production. A new pilot facility will be established by the end of 1982, with an initial capacity of 1,000 discs a month, expandable ultimately to 10,000 per month as demand grows.

GEOFFREY CHARLISH

Photocells

At the conference he described some of the prospects for product inspection using, for example, processed images from monochrome line-scan cameras. These use a line of tiny photocells past which the product is moved, so that a point by point, line by line image is fed into a digital semiconductor store.

By digitising the image of this bottle and processing it, a precise outline is obtained allowing profile measurements to be made

Surface checked by laser

LASERSURF, a development of Diffracto in Ontario, Canada, is being made available in the UK by Optical and Mechanical Development Company, Edenbridge, Kent (0732 864111).

The surface of parts to be inspected are illuminated by a laser beam and the reflected illumination received by a photodiode array. The complex scattering pattern of the light is related to the surface roughness and subsequent electronic processing decodes the surface roughness information, displaying the roughness in accepted units. The electronics can also pass an accept/reject signal, based on a preset threshold, to a downstream sorting gate.

Compared with stylus-based equipment, Lasersurf has the advantage that it checks either static or fast moving parts. Furthermore, since it is non-contacting, there is neither probe wear nor trace marks.

Membran builds a faster tester

SPEED, CAPACITY and versatility are the keynotes of a new printed circuit board tester from Membran, the MB 3342S. The company's previous hybrid tester (that is, a machine able to cope with both computer-like digital circuits and analogue circuits of the kind found in telephony and radio), could offer 1199 digital test points and a further 327 for analogue work. The testing rate for digital patterns was 500 Hz.

In the new machine these three key figures have been raised to 2292, 853 and 2 MHz respectively. The machine, like its predecessor, is an "in-circuit" tester. Via a "bed of nails" contact platen the interconnections on either assembled or bare boards can be checked, verifying that the correct components have been fitted and properly oriented. Computer diagnosis identifies incorrect components and tracks.

Such a test ensures that, if powered up the board will not be damaged. Then, tests with power on can check that each active device functions correctly.

CONTRACTS AND TENDERS

ARAB REPUBLIC OF EGYPT GREATER CAIRO WASTEWATER PROJECT SUPPLY OF MECHANICAL AND ELECTRICAL PLANT AND EQUIPMENT

The Organisation for the Execution of the Greater Cairo Wastewater Project (CWO) invites British manufacturers and suppliers of mechanical and electrical equipment to express interest in tendering for the Greater Cairo Wastewater Project.

CWO is an organisation set up by the Ministry of Housing and Reconstruction of the Arab Republic of Egypt to implement the Greater Cairo Wastewater Project, a major scheme for rehabilitating, augmenting and extending Cairo's wastewater system. Design work for the first stage of the project comprising tunnels, major pump stations, culverts and a treatment works all on the east bank of the River Nile and having a total estimated construction cost of about LE 800 million is now under way. Consulting Engineers for this work are AMERIC, a joint venture between UK firms Binns & Partners and John Taylor & Sons and US Consultants Camp Dresser & McKee and Black & Veatch International (in association with Egyptian Consultants, Egecon). Foreign currency requirements for the first stage east bank work will be met from a £50 million grant from the British Government and a £100 million loan from the Midland Bank and Samuel Montagu & Co. Ltd, backed by ECGD.

It is envisaged that tenders will be invited later in the year for the manufacture, works testing, delivery, erection and commissioning, including training of operatives, of the undermentioned items of mechanical and electrical equipment for sewage applications. All associated motors, switchgear, cubicle starters, cabling and control gear will be included as appropriate with each item.

- Item No. 1 - Rotodynamic Pumps in two Stations: Dry chamber umbrella pumping equipment, pipework, valves, penstocks, stairways, platforms, etc. 14 No - Units of capacities up to 3500 l/s each. Item No. 2 - Archimedian Screw Pumps in eight Stations: Pumps, gearboxes, penstocks, etc. 70 No - Units of capacities up to 2350 l/s each. Item No. 3 - Positive Displacement Pumps in three Stations: Reciprocating pumps, gearboxes, pipework, valves, platforms, etc. 30 No - Units of capacities up to 160 l/s each. Items 4 to 11 below are required for a wastewater treatment plant of capacity 1,008,000 cmd (maximum throughput 1,700,000 cmd). Item No. 4 - WWTP Inlet-Works Machinery Installation: Screens, detritors and all ancillary equipment. 24 No - Screens Units to pass average flow of 1.16m³/s each. 8 No - Grit collector units. Item No. 5 - Primary Sedimentation Installation: Circular tank centre feed equipment and all ancillaries. 32 No. Item No. 6 - Secondary Treatment Installation: Fixed surface aerators with draught-tubes, gearboxes, etc. 180 No - Units of 75 kW capacity each. Item No. 7 - Final Settlement Installation: Circular tank centre feed equipment and all ancillaries. 32 No. Item No. 8 - Chlorination Installation: Metering pumps, pipework, injection equipment, etc. 2 No - Sets of equipment each of 22,500 kg/d capacity. Item No. 9 - Sludge Thickening Installation: Circular tank centre feed equipment and all ancillaries. 24 No - Units to pass average flow of 3300 cmd each. Item No. 10 - WWTP Electrical Power Distribution Installation: HV switchgear, transformers, LV switchgear, standby generator, cabling, etc. for total installed capacity of 20 MW. 4 No - 4 MW sub-station installation each. 2 No - 2 MW sub-station installation each. Item No. 11 - Instrumentation and Control Installation: Centralised monitoring equipment for process and plant.

Interested suppliers or manufacturers or groups of suppliers or manufacturers are invited to express interest and to provide the following detailed information: (a) Item(s) for which they wish to tender; (b) capability to supply the plant and equipment indicated; (c) previous contracts of similar nature and size undertaken by the company or group of companies; and (d) the financial standing of company or group of companies.

Details should be submitted not later than 30th April 1982 to: AMERIC, P.O. Box 2265, Ataba Square, Cairo, A.R.E.

A further copy should be sent to P.O. Box 2265, Ataba Square, Cairo, A.R.E., marked for Chairman A. Sarwat, CWO.

SOMALI DEMOCRATIC REPUBLIC MOGAMBO IRRIGATION PROJECT

CONTRACT NR. M2 IRRIGATION, DRAINAGE AND FLOOD PROTECTION WORKS PREQUALIFICATION AND REGISTRATION OF PROSPECTIVE TENDERS

The Mogambo Irrigation Project will develop irrigated agriculture over a net area of about 2200 ha using water abstracted from the Jubba River and forms part of a proposed ultimate development of some 8000 ha. The construction of most of the works will be the subject of international competitive tendering under the terms of agreement for financial aid negotiated between the Somali Democratic Republic, the Kuwait Fund for Arab Economic Development and the Kreditanstalt für Wiederaufbau, Buildings and Services associated with the Project are to be the subject of an advance contract to be awarded in Somalia shortly. The tender documents are in the course of preparation for this contract, which will be let to a prequalified tenderer with a view to construction commencing early in 1983. The Works generally comprise: (a) Supply canal and distributory canal system to supply the irrigated area; (b) Pump station at the head of the supply canal; (c) Canal structures, including gateways under the Galla/Kiamey flood and the flood relief channel, cross regulators, distributory outlets, escapes and other canal structures; (d) Infield works comprising water courses and associated structures, land forming, surface drains, and surface drain culverts; (e) Drainage channel system comprising outfall drain and main collector drains; (f) Drainage pump station; (g) Drain structures including road culverts, collector drain junctions and all other drain structures; (h) Sprinkler pump station together with distribution system; (i) Flood protection bunds and remodelling of existing flood relief channels. The supply and supervision of erection of the pumping plant and gates and other water control equipment will be the subject of nominated sub-contract.

PREQUALIFICATION OF TENDERS Contractors who wish to be prequalified for the above Contract should submit their names and addresses to be received by the Consultant before 1st May 1982. They will be sent further information about the Contract and requests for the information needed in the prequalification procedure. CONSULTANT The Consultant, to whom applications for prequalification and registration should be sent, is: SIR M. MACDONALD & PARTNERS, DEMETER HOUSE, 11 TATTON ROAD, CAMBRIDGE, CB1 2RU, UNITED KINGDOM who will acknowledge all applications and, in due course, supply further particulars. LANGUAGE Submissions of original documents or copies thereof, which are not in English, should be accompanied by English translation. Signed: THE GENERAL MANAGER, MOGAMBO IRRIGATION PROJECT, MOGADISHU, SOMALI DEMOCRATIC REPUBLIC

INTERBASE E.P.

An Enterprise of the ownership of the Republic of Cape Verde, has received loans from the following sources:

- SAUDI FUND FOR DEVELOPMENT
- ARAB BANK FOR ECONOMIC DEVELOPMENT IN AFRICA
- ABU DHABI FUND

Such loans are for development towards the cost of a fishing project, and it is intended that proceeds of these loans will be applied to payment under contract for which this invitation for prequalification is issued.

The tender for which prequalification is now laid open comprises the supplying of:

- 12 STEEL HULL TUNA BOATS, 14-18 METRES LONG, WITH 220 HP ENGINE, EQUIPPED WITH GEARS FOR POLE AND LINE FISHING, AND BAIT CATCHING AS WELL.

Candidates must send applications for prequalifications to: INTERBASE E.P., P.O. BOX 59, MINDELO, REPUBLIC OF CAPE VERDE (TELEX NR 993-94 INTER 5V CV)

Within 30 days after this invitation is made public, applications must be presented and completed with good documents to corroborate (documents must be sent in duplicate):

- (1) Candidate's experience and past performance.
- (2) His capabilities with respect to personnel, equipment and plant.
- (3) His financial position.

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FT Monthly Survey of Business Opinion

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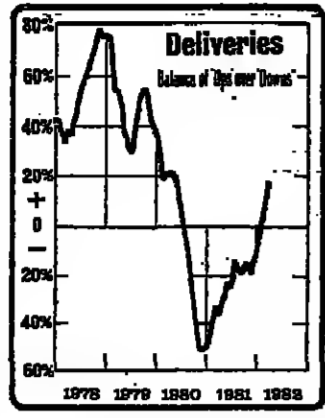
GENERAL OUTLOOK

Outlook more optimistic

CONFIDENCE about the general business situation showed a significant improvement in March, and a higher balance of those surveyed were optimistic about the future than at any time since the start of the recession.

The three sectors surveyed during the month—construction and building, food and tobacco, and textiles and clothing—were all more optimistic than when the companies were last interviewed in November. The moderately improved prospects for growth and for lower interest rates were among general factors cited.

Most of the companies were interviewed before the Budget, but to follow-up interviews, they expressed generally favourable



but unexcited reactions in the Chancellor's measures. The bad

weather during the winter months was a dampening effect on the optimism of some companies, and in the construction industry, the continued restraint on government spending and the low level of housing starts was to be seen as a restraining factor.

The general level of optimism shown by the survey fell back during the summer and autumn of last year after a steady improvement from a very low level in the depths of the recession to the summer of 1980. Since last autumn, however, there has been a sustained improvement with a balance of 30 per cent of respondents saying they were more optimistic than they were four months

GENERAL BUSINESS SITUATION

Are you more or less optimistic about your company's prospects than you were four months ago?

	4 monthly moving total				March 1982		
	Dec. Mar.	Nov. Feb.	Oct. Jan.	Sept. Dec.	Constrcn. & Bldg.	Food & Tobacco	Textiles & Clothing
More optimistic	50	46	34	30	76	47	77
Neutral	30	32	44	48	24	44	23
Less optimistic	20	22	22	22	0	9	0

EXPORT PROSPECTS (Weighted by exports)

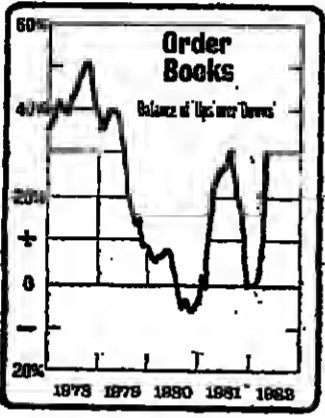
Over the next 12 months exports will be:

	4 monthly moving total				March 1982		
	Dec. Mar.	Nov. Feb.	Oct. Jan.	Sept. Dec.	Constrcn. & Bldg.	Food & Tobacco	Textiles & Clothing
Higher	83	77	72	63	50	41	100
Same	8	11	14	24	37	35	0
Lower	8	12	11	12	16	12	0
No answer	1	0	2	2	0	12	0

ORDERS AND OUTPUT

Signs of improvement

THE THREE sectors surveyed this month indicate an improvement in new orders and order books compared with four months ago. The severely depressed construction and building sector has finally started to expect an improvement in the level of housebuilding, the number of housing starts in 1981 having plummeted in the lowest level since the war. Last November none of the companies interviewed in all three sectors expected their order books to improve in the following four months. This time 17 companies were expecting expansion in their order books, resulting in the greatest improvement in this index since



September 1972. Nearly three times as many companies expected their turnover to rise by 2.5 per cent or more in the next 12 months as had given this answer in November. Again, the building and construction industry is more optimistic because of signs that housebuilding is on the way up again. Some of the companies were re-interviewed after the Budget and publication of the Public Expenditure White Paper. A quarter of them increased their expectations of increased turnover. The optimism was helped by a general feeling that interest rates would fall further in the near future.

NEW ORDERS

The trend of new orders in the last four months was:

	4 monthly moving total				March 1982		
	Dec. Mar.	Nov. Feb.	Oct. Jan.	Sept. Dec.	Constrcn. & Bldg.	Food & Tobacco	Textiles & Clothing
Up	38	33	26	16	31	14	26
Same	30	30	37	38	40	44	35
Down	18	17	20	27	29	22	23
No answer	14	20	17	19	0	20	16

PRODUCTION/SALES TURNOVER

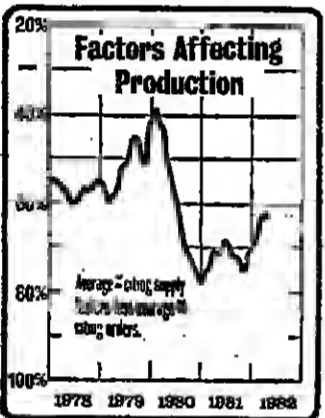
Those expecting production/sales turnover in the next 12 months:

	4 monthly moving total				March 1982		
	Dec. Mar.	Nov. Feb.	Oct. Jan.	Sept. Dec.	Constrcn. & Bldg.	Food & Tobacco	Textiles & Clothing
Rise over 20%	3	3	1	1	3	0	0
Rise 15-19%	1	3	2	2	0	0	0
Rise 10-14%	10	7	8	5	37	0	0
Rise 5-9%	22	21	20	20	24	25	49
Rise 2.5-4%	25	23	20	18	3	50	47
Remain the same	31	37	40	44	3	24	3
Fall 2.5-4%	6	5	5	8	22	0	0
Fall 5-9%	0	2	2	2	0	0	0
Fall 15% or more	1	0	0	0	7	0	0
Median	3.7	3.2	2.8	2.0	8.1	3.8	5.0

CAPACITY AND STOCKS

Output level improves

THE INDICATOR measuring the percentage of companies working at planned output levels or above continued to improve last month, reflecting industry's general improvement in confidence. Both the building and construction and the food and tobacco sectors reported more favourable capacity working than when last surveyed in November. Another sign of confidence came from the improvement in the number of companies saying they would plan more than six months ahead with reasonable accuracy. Respondents' answers to questions about stocks was mixed.



The textiles and clothing sectors expected stocks of all kinds to increase while the building and reconstruction industry expected these to fall. There was therefore little change in the indices governing the volume of work in progress or stocks of raw materials and components. However, the food sector was more optimistic, with a balance of 25 per cent of companies expecting an increase in stocks. This index is the only one of the 11 which is not being used.

STOCKS

Raw materials and components over the next 12 months will:

	4 monthly moving total				March 1982		
	Dec. Mar.	Nov. Feb.	Oct. Jan.	Sept. Dec.	Constrcn. & Bldg.	Food & Tobacco	Textiles & Clothing
Increase	25	24	31	23	24	19	81
Remain the same	52	53	44	54	36	56	3
Decrease	22	19	21	20	40	25	16
No answer	2	2	4	3	0	0	0

Manufactured goods over the next 12 months will:

	4 monthly moving total				March 1982		
	Dec. Mar.	Nov. Feb.	Oct. Jan.	Sept. Dec.	Constrcn. & Bldg.	Food & Tobacco	Textiles & Clothing
Increase	24	18	18	14	24	25	55
Remain the same	43	48	44	50	44	62	22
Decrease	21	18	21	21	25	13	16
No answer	1	3	5	4	0	0	0
Not applicable	12	13	12	10	7	0	7

FACTORS CURRENTLY AFFECTING PRODUCTION

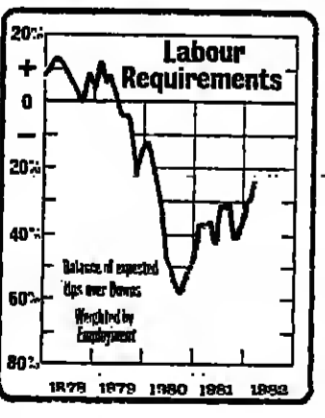
Are any of the following factors limiting your output at present?

	4 monthly moving total				March 1982		
	Dec. Mar.	Nov. Feb.	Oct. Jan.	Sept. Dec.	Constrcn. & Bldg.	Food & Tobacco	Textiles & Clothing
Home orders	87	86	89	92	93	87	89
Export orders	49	50	55	55	53	45	58
Executive staff	1	2	2	1	0	0	0
Skilled factory staff	6	3	2	4	15	6	11
Components	2	2	3	1	1	0	0
Raw materials	4	0	0	1	15	13	0
Production capacity (plant)	6	7	4	3	0	6	26
Finance	1	1	0	0	0	0	0
Labour disputes	6	4	2	2	0	13	0
Others	21	21	21	20	15	9	0
No factors	4	8	8	5	1	0	0

INVESTMENT AND LABOUR

Some increased investment seen

THERE WAS a generally increased tendency among those surveyed to say that they would be increasing capital expenditure. All three of the sectors interviewed in March were less inclined to say that they expected the proportion of capital expenditure spent overseas to increase, or they were more inclined to say it would decrease. This indicator has therefore fallen quite sharply. A general tendency to say that capital expenditure would increase has been evident from about the turn of the year. This reflects the pattern of general business optimism shown by the survey. There was a continued in-



crease in the tendency for companies to say they expected to take on more labour, particularly in the construction sector. However, some construction companies said uncertainty about whether the recession had really come to an end was discouraging them from taking on extra workers. The reduction of the employers' National Insurance Surcharge in the Budget does not appear to have given companies a great incentive to take on extra labour. There is still a balance of 25 per cent of companies saying they expect to reduce labour requirements, but this negative balance has been declining since last autumn.

LABOUR REQUIREMENTS (Weighted by employment)

Those expecting their labour force over the next 12 months to:

	4 monthly moving total				March 1982		
	Dec. Mar.	Nov. Feb.	Oct. Jan.	Sept. Dec.	Constrcn. & Bldg.	Food & Tobacco	Textiles & Clothing
Increase	17	13	12	8	24	3	45
Stay about the same	42	45	44	47	50	49	0
Decrease	41	42	43	45	24	47	55

CAPITAL INVESTMENT (Weighted by capital expenditure)

Those expecting capital expenditure over the next 12 months to:

	4 monthly moving total				March 1982		
	Dec. Mar.	Nov. Feb.	Oct. Jan.	Sept. Dec.	Constrcn. & Bldg.	Food & Tobacco	Textiles & Clothing
Increase in volume	41	34	25	23	54	36	64
Increase in value but not in volume	9	11	9	12	3	12	0
Stay about the same	20	23	20	22	13	41	20
Decrease	29	31	42	40	28	12	15
No answer	1	2	3	3	0	0	0

COSTS AND PROFIT MARGINS

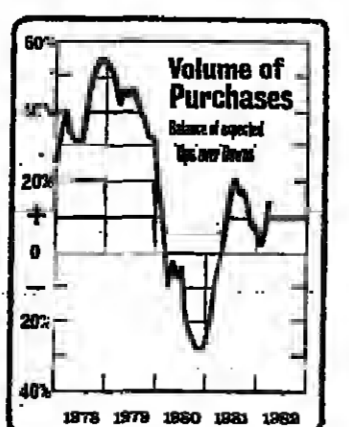
Mixed pattern in wage demands

THE BUILDING and textile sectors are expecting greater increases in wages than they had done in November but food and tobacco companies reduced their wage increase expectations. Determination to resist wage increases in excess of the amount budgeted remains quite strong although there is greater willingness to negotiate a shorter working week. More companies would like to pay increased differentials to groups of employees although the majority think they have already established or re-established suitable differentials. Although more companies expected their profit margins to rise over the next 12 months than had done in November this was not reflected in the indices weighted by market capitalisation. These surveys, which are carried out by the Financial Times by the Taylor Nelson Group, are based on interview with senior executives. The 11 industrial sectors (mechanical engineering is surveyed every second month). Complete tables can be purchased from Taylor Nelson and Associates.

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expectations. This pattern was reflected in the views about unit costs, with the building and construction sector expecting a sharp rise in the next 12 months but the food and

to tobacco group giving reduced expectations. Determination to resist wage increases in excess of the amount budgeted remains quite strong although there is greater willingness to negotiate a shorter working week. More companies would like to pay increased differentials to groups of employees although the majority think they have already established or re-established suitable differentials. Although more companies expected their profit margins to rise over the next 12 months than had done in November this was not reflected in the indices weighted by market capitalisation. These surveys, which are carried out by the Financial Times by the Taylor Nelson Group, are based on interview with senior executives. The 11 industrial sectors (mechanical engineering is surveyed every second month). Complete tables can be purchased from Taylor Nelson and Associates.



COSTS

Wages rise by:

	4 monthly moving total				March 1982		
	Dec. Mar.	Nov. Feb.	Oct. Jan.	Sept. Dec.	Constrcn. & Bldg.	Food & Tobacco	Textiles & Clothing
0-4%	2	2	2	4	7	3	0
5-9%	86	80	80	75	56	94	100
10-14%	12	16	14	13	36	1	0
15-19%	0	0	0	2	0	0	0
20-24%	0	0	0	2	0	0	0
25-29%	1	2	4	7	0	0	0
30-34%	0	0	0	0	0	0	0
35-39%	0	0	0	0	0	0	0
40-44%	0	0	0	0	0	0	0
45-49%	0	0	0	0	0	0	0
50-54%	0	0	0	0	0	0	0
55-59%	0	0	0	0	0	0	0
60-64%	0	0	0	0	0	0	0
65-69%	0	0	0	0	0	0	0
70-74%	0	0	0	0	0	0	0
75-79%	0	0	0	0	0	0	0
80-84%	0	0	0	0	0	0	0
85-89%	0	0	0	0	0	0	0
90-94%	0	0	0	0	0	0	0
95-99%	0	0	0	0	0	0	0
100% or more	0	0	0	0	0	0	0
No answer	16	17	17	14	22	19	0

Unit costs rise by:

	4 monthly moving total				March 1982		
	Dec. Mar.	Nov. Feb.	Oct. Jan.	Sept. Dec.	Constrcn. & Bldg.	Food & Tobacco	Textiles & Clothing
0-4%	6	2	2	3	0	28	15
5-9%	39	40	40	39	25	52	38
10-14%	35	36	32	36	52	1	32
15-19%	0	0	4	4	0	0	0
20-24%	2	3	4	3	0	0	16
25-29%	2	2	2	2	0	0	0
30-34%	0	0	0	0	0	0	0
35-39%	0	0	0	0	0	0	0
40-44%	0	0	0	0	0	0	0
45-49%	0	0	0	0	0	0	0
50-54%	0	0	0	0	0	0	0
55-59%	0	0	0	0	0	0	0
60-64%	0	0	0	0	0	0	0
65-69%	0	0	0	0	0	0	0
70-74%	0	0	0	0	0	0	0
75-79%	0	0	0	0	0	0	0
80-84%	0	0	0	0	0	0	0
85-89%	0	0	0	0	0	0	0
90-94%	0	0	0	0	0	0	0
95-99%	0	0	0	0	0	0	0
100% or more	0	0	0	0	0	0	0
No answer	14	12	11	8	15	6	0

FINANCIAL TIMES SURVEY

Monday April 5 1982

Electronic Components

The electronic components industry is performing well despite the recession. The U.S. domination of the industry has been seriously challenged by Japan while West European countries still lag behind. Developments in technology show no signs of slowing down during the next few years

Horizons widen for new markets

By ELAINE WILLIAMS

MEASURED AGAINST the backdrop of the world recession, the electronics industry growth is still impressive. It has managed to maintain a growth rate of about 11 per cent a year in the 1980s at a time when other industries have declined sharply.

It continues to make strides in technology—some of which will be shown at the All Electronics Show at the Barbican later this month—and many new markets are opening in areas such as telecommunications. Industry and commerce have realised that electronics equipment is vital to maintain a competitive edge or simply to survive the cold wind of the recession.

The computer industry still represents the largest customer for the electronic components industry taking about 25 per cent of the total production of integrated circuits.

Within this sector the fastest growing segment is small computers which find applications as personal business machines or are integrated as part of other industrial or commercial systems. These small desktop-sized computers are linked to the growing interest in office automation which is mainly centred around word processing systems.

At present, the market penetration of word processing systems is relatively small but is estimated to be growing at a rate of more than 20 per cent a year reaching a value for Western world word processing equipment of \$5.33bn by 1985.

Coupled with the evolution in the office is the increased demand for telecommunications, resulting in another growth sector for electronic components. The western world is now going through a transition from outdated electromechanical telephone systems to completely electronic ones.

More components

This is also opening up new markets in data communications equipment, connections to computer systems and new telephone gadgets, all of which need components.

Despite the recession throughout industry, the demand for applying electronics to automatic industrial processes is increasing. Companies have realised that robots and other automated production systems are vital to increase productivity and lower costs.

In Europe industrial applications for electronics represents one of the largest sectors for the industry and is growing

at an annual rate of about 12 per cent.

The market for consumer electronics is not growing as fast as some other sectors because of the recession. Consumer goods such as calculators and digital watches seem to be levelling off in sales although video games and home video systems still show substantial growth.

The introduction of the first microprocessor—a computer on a chip—in the early 1970s marked a new phase in both electronics and computing. It lowered the cost of computing to a level where it could be employed in almost any application imaginable.

Hence its appearance in equipment as diverse as electronic games, aircraft navigation systems, aids for the disabled, heart pacemakers and industrial controls.

Technical developments over the next few years will continue to centre on squeezing more individual components on to the tiny square of silicon probably going beyond 1m elements per silicon chip, this decade.

Microprocessors will become more complex and be able to store more data on the same chip instead of requiring a separate memory circuit—making it truly a complete computer on a silicon chip. Today the largest semiconductor memories—used for storing large amounts of information—are capable of holding 64,000 bits of information. Semiconductor companies are now set to leap to memories capable of handling four times that amount of information.

Designers are already reaching the limits of existing semiconductor production technology

which is based on photolithography—a highly sophisticated photographic process.

Integrated circuits are built up in layers on the silicon base. Parts of the silicon is etched away by acids while other areas are implanted with impurities to give the circuits the required electrical characteristics.

Optical methods

Today each layer is aligned above the previous one using optical methods. However, if circuits are to become more complex the size of each individual transistor or element has to shrink below the size at which the optical methods are accurate. So companies are now looking at ways of using X-rays or electron beams to build up the circuits.

Although the market for electronic components is growing at a healthy rate, it costs a lot of money to keep in the semiconductor race. Technological developments are moving ahead so fast that companies need to

re-equip constantly with the latest design and production equipment.

The complexity of modern silicon chips means that it is impossible to design them without the aid of sophisticated computers and a factor limiting the expansion of production facilities has often been the delay in deliveries of the latest machinery to make the circuits.

The ratio of investment to total turnover in the industry has risen from 10 per cent to more than 15 per cent which is higher than in any other industrial sector.

If we consider Impos, for example, the UK semiconductor company set up under the former National Enterprise Board, it has required an investment of over \$56m to begin manufacture of its microprocessors and other circuits and still needs more money if it is to keep abreast of developments.

It has been estimated that the seven leading U.S. companies in this field spent about

\$900m in 1980 on new equipment which was 40 per cent more than the previous years.

Industry observers feel that intense competition in the market will encourage an acceleration of mergers and takeovers which has been a feature of the industry over the past five years or so.

This, observers say, will lead to the emergence of a dozen or so electronics giants—rather like the seven major oil companies—which could control as much as 60 per cent of the worldwide electronics market.

For some years now a number of industrial groups have shown the potential to be classed as prototypes of these giants. Apart from IBM, which has already achieved such status, AT & T in the U.S., Philips and Siemens in Europe, Toshiba, NEC and Hitachi in Japan have the structural characteristics which could one day set them on this level.

However many multinationals such as oil giant Exxon, Honeywell, and United Technologies are among companies which have taken over electronics concerns because of the industry's growing importance.

Governments, too, have felt the need to influence the direction of national electronics industries. Several Western European countries have mounted programmes aimed at closing the technology gap with the U.S. and Japan.

Initiatives include plans in Germany to support semiconductor research and development providing grants of DM 143m (£33.26m) from 1978 to 1981. The German Government is now considering a further injection of money.

In France efforts have been aimed at creating a strong indigenous electronics components industry with state investment of FF 600m (£53.82m). Joint ventures with U.S. companies such as Motorola and Harris and National Semiconductor have also been encouraged.

In the UK more than £120m has been dedicated to industry support programmes apart from the money spent on setting up the Immos venture. According to the Electronic Components Industry Federation there is also state support for specific components such as optoelectronics and a rationalisation of industry sectors such as resistors to increase competitiveness.

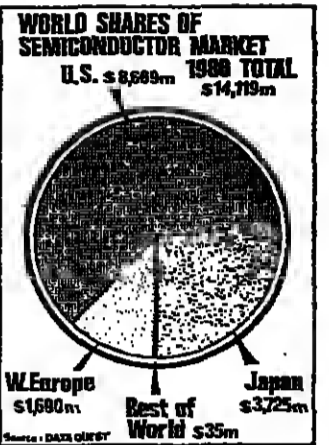
But both the U.S. and Japan, which emerged from a four-year catching up exercise in 1980, are now poised to take a further technological leap. U.S. companies have found a measure of support for developments under the U.S. defence spending budget through the very high speed integrated circuits programme.

MITI guidance

Meanwhile, Japan's private companies are being guided by the Ministry of International Trade and Industry (MITI), to produce the fifth generation of computers over the next decade.

Even Third World countries such as Taiwan, Singapore and Hong Kong, which concentrate on consumer products, are looking to improve their technology base.

Taiwan and Korea were attractive as offshore assembly locations for integrated circuit manufacturers because of cheap labour.



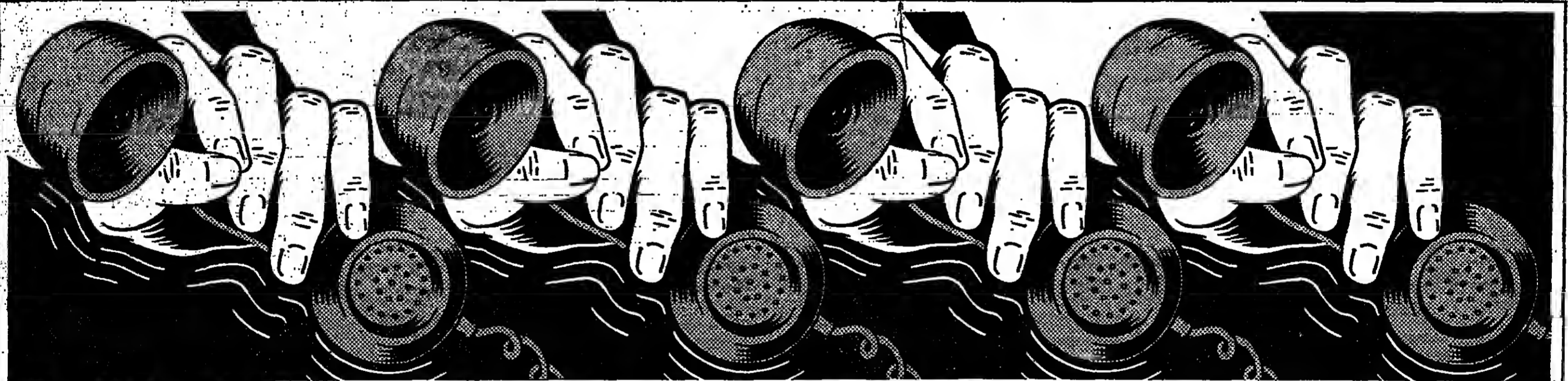
CONTENTS

Japan v U.S.	II
Transducers	II
European competition	III
Consumer viewpoint	IV
Captive suppliers	IV
Materials technology	V
Custom circuits	V
Developments	V
Design and testing	VI
Electronic defence	VI
Profiles: Motorola; National Semiconductor; Immos	II
Ferranti; Plessey; Intel; GEC; Fairchild	III
Thomson-CSF; Fujitsu	IV
AMI	IV
Siemens; IIT; Texas Instruments	VI

LEADING MANUFACTURERS OF SEMICONDUCTORS

(1980 shipment estimates)					
West European	U.S.	(\$m)	Japanese		
Philips	558	Texas Instrts.	1,580	NEC	769
Siemens	420	Motorola	1,100	Hitachi	658
ARG-Telefn.	196	National Seml.	770	Toshiba	629
Thomson-CSF	190	Intel	575	Fujitsu	419
SGS-Ates	150	Fairchild	566	Matsushita	307
Plessey	49	Signetics	384	Mitsubishi	254
Ferranti	48	Mostek	330	Sanyo	180

Excluding U.S. subsidiaries. Source: Dataquest, July 1981.



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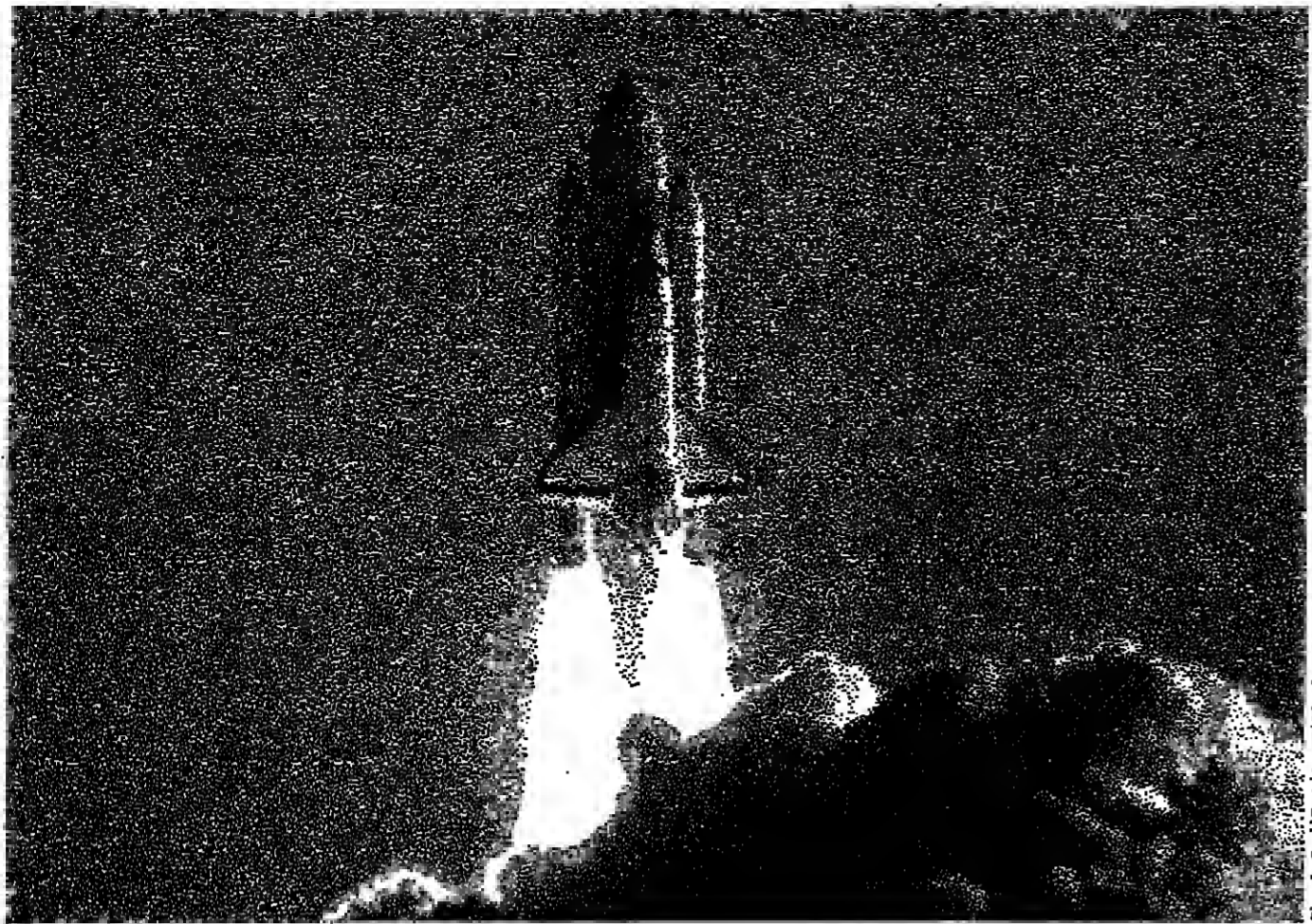
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ELECTRONIC COMPONENTS II

Trade flows become a political issue

THE "JAPANESE threat" to U.S. dominance of the world market for electronic components is no longer simply an industry issue. As the magnitude of the problem has emerged, concern has spread into the political arena to be debated in the U.S. Congress, studied by the Department of Commerce and possibly to be acted upon directly by the President as a matter of national security.

Can the Japanese repeat their successes in the automotive, steel, textile and consumer electronics markets to take over much of the world market for semiconductor devices? Many in the U.S. believe that they can, and will, unless something is done to stop them.

U.S. imports of Japanese components, in particular memory chips, have become an important factor in U.S.-Japanese trade negotiations. The U.S. industry wants "reciprocity", that is, they want the Japanese to allow free access to their domestic market.

Currently, trade barriers, both official and informal, prevent U.S. firms from establishing themselves in the Japanese market-place, according to a study sponsored by the Joint Economic Committee of Congress.

While the majority view of the U.S. industry, as expressed by the Semiconductor Industry Association, strongly favours open trade between the U.S. and Japan, there is some pressure for protectionist measures in the U.S., should trade negotiations fail to produce compromise on the part of the Japanese.

Motorola, one of the largest U.S. semiconductor producers, recently called upon the Department of Commerce to make an "informal" study of Japanese pricing policies in the 64K Ram (Random Access Memory) market, with a view to possible anti-dumping action against Japanese producers of the memory chips.

Others are hopeful that the President may act under a little known national security provision of the trade code to limit imports of 64K Rams as a strategic product.

U.S. chip makers are in a fighting mood. The combination of general economic pressures and increasing Japanese competition in the semiconductor memory market sharply reduced the 1981 profitability of every major U.S. chip manufacturer. Through-out this recession, however, U.S. semiconductor manufacturers have steadfastly maintained high capital spending.

A previous business downturn in 1974-5 taught them a hard lesson. In that recession, U.S. firms stopped expanding their production capabilities. When the market turned up, the U.S. companies were not able to keep up with demand, and Japanese competitors stepped in to fill the gap in supply and demand. Then, Japanese suppliers established a foothold in the U.S. and European markets that they have never relinquished.

So, despite their falling earnings, U.S. chip makers are spending enormous sums on updating and expanding their production facilities.

For many years, U.S. semiconductor chip makers competed with Japanese suppliers without concern. U.S. dominance seemed invincible. But when Japanese suppliers "bought" 40 per cent of the 16K Ram market, using what the Americans term predatory pricing tactics, attitudes changed.

"With the 16K Ram they had a field day because it was the highest volume circuit ever produced. This collapsing price situation has now carried over into the (next generation) 64K Ram area pre-empting the 64K Ram going through its normal experience curve in pricing," John Welty, president of Motorola said at a recent industry meeting.

"It takes a reasonable amount of profit for the semiconductor

brecht Quist, points out that the Japanese thrust has been principally focused on a narrow segment of the market: most (metal oxide semiconductor) memories, and CMOS (complementary metal oxide semiconductor) static memories.

A Japanese presence in all other sectors of the U.S. market has been limited, the report points out. Significantly, Japanese chip producers do not have the software and systems expertise needed to support microprocessor development and sales, H & Q believes.

While this may be true, the Japanese have been quick to take advantage of U.S. microprocessor technology. Nippon Electric Company, for example, is now believed to be the second largest producer of Intel's very successful 16-bit microprocessor and Hitachi has recently begun production of the competing Motorola micro.

"Second sourcing" pacts between U.S. and Japanese producers have become common over the last few years, and the build up of relationships between U.S. and Japanese firms may go some way towards smoothing trade relations between the two countries.

Japan v. U.S.

LOUISE KEHOE

industry to fund research and development on newer, more sophisticated integrated circuits." Mr Welty continued. "While our 64K Ram customers may be getting a bargain on products they buy today they are really mortgaging their future."

A somewhat different view is expressed by Robert Noyce, vice-chairman of Intel. "Limiting the imports of one product won't solve any problems," he says. Mr Noyce, in his role as chairman of the semiconductor industry association has been active in the formulation of a scheme to co-operate in funding basic research in semiconductor technology at U.S. universities.

He views this as a solution to two of the underlying problems of the U.S. semiconductor industry: the rising cost of research and development and the shortage of electronics engineers.

Another co-operative venture, with more immediate commercial appeal, has been proposed by Control Data Corporation. Last month, the company's chairman, William C. Norris, hosted an industry meeting at which he presented his idea to form a research and development corporation to be funded jointly by U.S. computer and semiconductor companies.

Such a proposal is revolutionary in the U.S. since it would almost certainly require changes in anti-trust regulations. Mr Norris maintains, however, that it is essential to the survival of the U.S. semiconductor industry.

Despite the strong statements of Mr Norris and other industry figures, some analysts believe that the Japanese threat has been greatly exaggerated.

A recent report by San Francisco investment bankers Ham-

Another trend that may work out some of the problems is that U.S. firms, such as Texas Instruments, now have substantial production facilities in Japan. Japanese producers are also setting up assembly plants in the U.S.

The real battleground for the fights between U.S. and Japanese chip makers will, however, be in Europe. Already, price wars in the European markets have reached the point where U.S. manufacturers are complaining that they are unable to make any profits on their sales.

Underlying the marketing battles is the more long-term question whether the Japanese have in fact moved ahead of the U.S. in semiconductor technology. While Japanese chip manufacturers have clearly perfected the art of high volume manufacturing of standard integrated circuit devices — as evidenced by their success in the mass markets for "jelly bean" products such as dynamic Rams — there is little evidence so far to suggest that they have the innovative design capabilities of such U.S. companies as Intel and Motorola.

This is not to say that the Japanese are not capable of developing such expertise — but they have yet to do so. One scenario for the future of the U.S. v Japanese competition predicts that the Japanese will capitalise upon their progress in memory devices to become the major producers of all standard semiconductor devices. U.S. companies, meanwhile, will maintain and expand their lead in custom-designed parts.

At the same time, U.S. semiconductor houses are increasingly moving into systems markets where they can gain more profits from their costly development of original designs in the microprocessor field.

MOTOROLA Claims widest range

MOTOROLA CLAIMS to have the broadest product range of any electronics component manufacturer in the world. The company's "semiconductor product sector" as it was renamed last year, had sales last year totalling about \$1.3bn.

The company is a major manufacturer of discrete components: transistors, resistors and the like. As other component manufacturers have dropped out of this less glamorous end of the component business, Motorola has increased its market share, so that although the discrete market is not growing, Motorola's sales are.

In integrated circuits, Motorola is the top U.S. producer of 64K Rams, and second only to Intel in microprocessors. Both markets are highly competitive and Motorola, as much as any other producer, has suffered from the recession.

Through its recent acquisition of Four Phase Systems, a computer manufacturer, Motorola is entering the data processing market. At the moment, however, the corporation's chief interests are in communications equipment (with sales of over \$1bn), semiconductors and other types of electronic systems.

Louise Kehoe

NATIONAL SEMICONDUCTORS

Leaders in circuits field

WITH INTEGRATED circuit sales of an estimated \$670m in 1981, National Semiconductor fell from second to third place among U.S. producers. The company's earnings have been severely reduced by economic pressures and dropping memory prices over the past year. Another problem for National has been its disqualification as a supplier of some military products due to alleged failure to comply with Department of Defense production and testing rules.

National is, however, a dominant supplier in several market sectors, notably the linear circuits market. In bipolar technology National is a leader, and it is also developing a strong position in CMOS — the low power technology that is widely expected to become a major challenger to today's MOS (metal oxide semiconductor) technology. In microprocessors, National is soon to begin volume production of its new 16-bit microprocessor. The device is believed to be the most advanced of its type, but National will be up against stiff competition from already established suppliers.

Apart from standard products, National makes custom integrated circuits for individual customers.

L. K.

INMOS

Ram chips to be made at Gwent

INMOS, the British state-backed producer of mass-market microchips, is shortly to start making 64K Random Access Memory (Ram) chips at its new factory in Gwent, South Wales.

Inmos was set up in 1978 by two Americans, Dr Richard Fettrich and Dr Paul Schroder, and the Briton Mr Rann Barron with substantial backing from the National Enterprise Board. Government backing for Inmos is now nearly £100m, in equity, guaranteed loans and grants. The National Enterprise Board, now part of the British Technology Group, is drawing up plans to sell a substantial part of its 75 per cent stake in Inmos.

Sales at Inmos are running at over \$1m a month largely in 16K Ram chips produced in the U.S. Inmos strategy is to offer high performance chips which can command a premium price.

Its new 64K Ram chip faces strong competition from established semiconductor giants and there is already a number of Japanese companies sampling the next generation of memory chips, the 256K Ram.

Inmos's microprocessor which it calls a "transputer" will not be available until 1984 although the company is to start talking to potential customers next year. Inmos claims the transputer will be a major technological jump with sufficient attraction to wean companies away from standard microprocessor systems in which they have a substantial investment.

Jason Crisp

TRANSDUCERS

TRANSDUCERS — in journalistic terms — is a synonym for sub-editors. These are the people who translate the incomprehensible language of the writers into a language suitable for English consumption.

In electronic terms the transducer converts electrical signals via telephone earpieces or loudspeakers to sensors to measure temperature, pressure, failure in moving machinery, cracks in walls, fire detection, and such things.

It is a large, growing and, at present, a rather expensive industry — at least if you need transducers. But as the revolution in electronics proceeds prices should fall.

It is, however, a fragmented industry with many small companies in the field and the larger companies producing transducers for their own use.

The entire Western world is committed to transducers — the UK is not lagging and is producing some of the best technology in the field.

Ancom of Cheltenham provides a selection of specialist temperature and humidity orientated products and is successfully exporting to Japan.

The company's range of two and three piezoelectric connectors with a wiping action ensuring homogeneous contact at all times includes 10 compensated colour coded thermocouple types in standard and miniature sizes.

The same company has also announced a complete range of temperature measurement and control hardware systems which includes bench top, panel mounting and hand-held thermometer and relative humidity measuring instruments. Included is an energy limiting temperature controller and an

Transducers

MAX COMMANDER

Transducers

MAX COMMANDER

(D5604 Neviges, AM Rosenhugel), offers a complete control room hardware system, including - all - connections, panels, display switching and control elements. The interactive mimic display is of high quality.

Mauell's mosaic control panel consists of a metal section framework which can be assembled into a lattice grid. Metal or plastic tile modules are fixed to the framework by hair springs. The grid/tile network can be assembled to form a flat or curved surface. Three sizes are available.

As an addition, Mauell has a wide selection of discrepancy and toggle switches, and push-buttons, with or without illumination, for auxiliary circuit operation. The units are fully sealed and offer protection against touch, solid substances

and humidity.

Norsem Optoelectronics in Hartlepool, Cleveland, is well known for its expertise. Now it is pioneering its hopes on the NDM 3D5 3 $\frac{1}{2}$ liquid crystal display panel meter module.

Norsem has also obtained a number of franchises for optoelectronics including the UK distributorship for BBC LCDs and also the introduction to Britain of membrane switch panels from Luminescent Systems Inc.

In the near future digital data encryption techniques will play an increasingly important role in the financial world. Brokerage transactions, fund transfers and almost all City style movements of money or documents will need special security systems.

Pronto Electronic Systems in Essex is offering Western Digital's WD2301/2002 series of monolithic data encryption devices. Data can be encrypted and decrypted for later use and stored in a coded cipher free from unauthorised entry.

Cryptography for beginners is a kit offered by the company for people unfamiliar with this technology. The primer kit allows experimentation and exploration of DES cryptography. It includes a programmable cryptographic pcb with standard RS232 I/O interfacing an assembly, wiring and operations manual, cryptographic primer and relevant documentation.

The PCB accepts baud rates from 50 bps to 19.2k bps the user inputting the 64 bit key-word from a computer terminal. The board contains a dual port encryption device with a LED display for status and error message.

Growing but still costly control technology

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eight channel alarm scan unit.

There have been problems solving measurement and switching problems but Rhopoint of Oxted, Surrey, appears to have come up with some answers with its new range of ultra-low thermal electro-magnetic relays.

Its Series 3400 relays are designed as input devices for low level switching applications such as data acquisition systems, process controllers and monitors, data scanners, multiplexers and digital and analogue multipoint recorders.

In Germany, Helmut Manell

ELECTRONIC COMPONENTS III

Overall policy is lacking on semiconductors

WESTERN EUROPE is the world's third largest market for semiconductor products after the U.S. and Japan. Yet its own indigenous manufacturers have managed in recent years to cover only about half of its requirements, with most of the rest being supplied by American companies.

According to Dataguest, a leading U.S. market research house, Europe accounted for 20 per cent of the world market for semiconductors last year, valued at \$13.5bn, while producing 9 per cent of world output. The European market's share of the total is expected to fall to 18 per cent this year—reflecting a strong surge of demand in Japan—though Europe's production is forecast to edge up to 10 per cent.

Europe can also boast only two companies in the list of the top ten semiconductor manufacturers. They are Philips, the Dutch group whose geographically-diversified operations include Signetics, a sizable U.S. company acquired in the mid-1970s, and Siemens, the largest West German electrical and electronics manufacturer.

Addressing the balance has become an increasingly important objective for a number of European countries during the past decade. They are concerned with more than just their adverse trade figures in component supply. Semiconductor technology is now perceived in many European capitals as the main-spring of the new electronics revolution and its possession as a determining factor in future industrial development. Without autonomous capacity in the development, design and manufacture of integrated circuits, it is feared, Europe will be condemned once again to trail behind the U.S. in tomorrow's growth sectors. This anxiety is particularly acute in France.

But to date, there is no Europe-wide policy on semiconductors. In spite of efforts by the EEC Commission to win the support of the Council of Ministers for a joint research and development programme, national measures predominate. The only issue on which there can

be said to be common ground is the maintenance of an EEC tariff on semiconductor imports.

The national instruments used to try to promote the semiconductor industry take a variety of forms. These include support for research and development, Government procurement grants and subsidies, encouragement of mergers and industrial reorganisation and incentives for foreign investment.

These measures are used in different combinations, and in different degrees, in each European country. A brief look at recent developments inside the bigger EEC member states illustrates the considerable variations that

European competition

GUY DE JONQUIERES

exist in the pattern of Government policies and industrial structures.

Britain: None of the major electronics companies, such as the General Electric Company, Ferranti, Plessey or Thorn-EMI manufactures mass-produced "standard" microchips. GEC considered mounting a UK-based joint venture in this field with Fairchild of the U.S., but the proposal was dropped two years ago.

Instead, British companies have concentrated on more specialised semiconductors to be used in specific applications, often determined by their own manufacturing requirements. Ferranti has established a strong position in the growing market for "semi-custom" devices using a technology which it pioneered.

The only UK entrant in the mass-market is Immos, the state-owned venture set up three years ago, in which almost £100m has been invested. Immos plans to make both memories and microprocessors in Britain and the U.S. Commercial production

INTEGRATED CIRCUITS		WEST EUROPEAN MARKET		IC MARKETS IN EUROPE		
End 1981 \$m		End 1981 \$m		Percentage		
1980	↑1986	1981	1982	1980	1985	
France	254	640	Germany	675	760	1,445
Germany	713	1,445	UK	310	335	595
Italy	179	315	France	280	325	640
Scandinavia	163	325	Italy	185	175	315
UK	388	595	Scandinavia	160	180	325
Rest of Europe	253	490	Rest of Europe	230	255	480
Total	1,950	3,800	Total	1,820	2,030	3,800
† Estimated.		† Estimated.		Mackintosh International.		

is only just starting and it is too early to say how it will fare in the intensely-competitive world markets.

Rather more public money has been spent on attracting foreign investment by U.S. and Japanese chipmakers, particularly in Scotland.

France: In 1978, the last Government launched a "Components Plan" providing for state support of FFr 600m (subsequently expanded to FFr 800m) over four years. The money has been channelled to five companies or "poles," each of which has been encouraged by the Government to concentrate on particular aspects of semiconductor development.

The French Government also helped French companies to forge alliances with U.S. manufacturers — Thomson with Motorola, Matra with Harris and Intel and Saint Gobain with National Semiconductor.

The Mitterrand Government is expected soon to launch a new and expanded Components Plan—support of as much as FFr 2.5bn over four years has been discussed.

A restructuring of the French industry is also on the cards: there has been speculation that after the completion of nationalisation plans, St Gobain may withdraw from semiconductors and Thomson may become the pivot of the industry. The future shape of Matra-Harris-Intel is somewhat unclear.

West Germany: The Federal Government provides no state funding specifically for the expansion of semiconductor manufacturing. But the industry benefits both directly and indirectly from Government programmes which emphasise research and development and the application of microelectronics by equipment manufacturers.

The country's biggest semiconductor manufacturer by a considerable margin is Siemens (other companies include AEG-Telefunken, Bosch and a subsidiary of Philips).

Since the mid-1970s, Siemens has made a major effort to expand its operations.

But this progress has been made at a heavy financial cost. Siemens's component operations have plunged deeply into loss.

Italy: The main Italian semiconductor manufacturer is SGS-Ates, part of the Stet national telecommunications group. The product of successive mergers, SGS-Ates has a history of heavy losses and has suffered from lack of firm management supervision from its parent, which continues to subsidise it.

Within the past two years, however, a recovery strategy has been initiated under a new management composed largely of former Motorola employees. It has launched an ambitious plan to return to profit by 1985 by building up international sales of components aimed at telecommunications and consumer electronics manufacturers. Discussions have been held on the possible purchase by Olivetti of a stake in the company.

At a time when even the giants of California's Silicon Valley are feeling the chill wind of recession and intensified Japanese competition, how realistic are Europe's chances of establishing a major role in the world semiconductor industry?

A study published last year by Sussex University concludes that a major breakthrough is unlikely. Though Europe may increase modestly its share of world production, the study forecasts that the industry is likely in future to be dominated by an "oligopoly" of big companies.

Although the study says that Philips and Siemens may be members of this club—along with U.S. and Japanese manufacturers—it suggests that their success will be largely due to their own efforts, not to Government policies. As a result, their main allegiance will be to world markets and not particularly to Europe.

FERRANTI

Big share in market for ULAs

THE British company Ferranti has successfully pioneered a special microchip which has become one of the fastest growing areas in the semiconductor industry. Although Ferranti now faces strong competition from the semiconductor giants—with many times its capacity in microelectronics—it still has between 30 and 35 per cent of the world market for uncommitted logic arrays (ULAs) worth \$150m.

Demand for ULAs is currently growing at 40 per cent a year and the market is expected to be worth \$1bn within five years. ULAs—known in the U.S. as gate arrays or semicustom logic—are standard chips which can be customised for a special function at the final stage of manufacture. The advantage is that it greatly reduces the lead times and cost to produce a new special microchip.

Ferranti's ULAs are being used in a host of applications from mainframe computers to dishwashers, from telephone exchanges to cameras. One ULA chip replaced 18 microchips in the tiny Sinclair ZX81 computer, others are used in the Monarch FAX, made by GEC and Plessey.

Dr Alan Sheperd, managing director of Ferranti Electronics expects the company will continue to expand at over 30 per cent because of the very strong demand for ULAs. In the year ending March 1981 Ferranti Electronics, including its Californian company Inter-Design, had sales of £27.7m, which is 10 per cent of the total Ferranti group's turnover.

Jason Crisp

PLESSEY

Microchip sales rise

PLESSEY SEMICONDUCTORS expects turnover in the financial year to March to have risen by 23 per cent with the sale of 20m units, in one of the most depressed years the semiconductor industry has known. By value, half of Plessey's semiconductors are exported.

About 30 per cent of its products are used in telecommunications and a similar volume for industrial and consumer goods. Just under 15 per cent of Plessey Semiconductors output are digital linear circuits for radio communications, and professional, consumer and citizen band radio.

Other main markets include radar (6 per cent), UK military (11 per cent) and instrumentation (6 per cent). Plessey says there is a sharp growth in the volume of its custom micro-

chips which account for 15 per cent of sales. Semi-custom chip volume—using cell based arrays—is growing at 180 per cent a year.

Plessey claims to have a dominant share of the world market for frequency synthesisers used for cable television, which is booming in the U.S. It also reports a significant growth in demand for products used for power controls in consumer products such as cookers, drills and hairdriers.

Japan is a significant customer of microchips for fishing boat radar and power controls for hairdriers and underfloor heating. At the height of the citizen band boom Plessey sold 2.5m circuits to Japan to put in the sets.

GEC

Strong base in ICs

GEC's semiconductor operations were substantially reorganised in 1980 after a planned joint venture to make standard mass market microchips with the U.S. company Fairchild collapsed.

The new company Marconi Electronics Devices (MED), brought together GEC Semiconductors, AEI Semiconductors and the microelectronics division of Marconi Space and Defence Systems. A 40,000 sq ft factory was built alongside another new factory at Lincoln making microwave components and was completed in less than a year. All GEC's integrated circuit production has been transferred to Lincoln where 1,200 people are employed.

GEC's semiconductor sales

FAIRCHILD

R & D spending lifted to \$100m

THE GRANDFATHER of silicon valley, Fairchild, was the spawning ground for today's industry leaders. Charles Sporck, president of National Semiconductor, Jerry Sanders, president of Advanced Micro Devices, and Robert Noyce, vice-chairman of Intel, are all Fairchild alumni.

While companies started by ex-Fairchild employees grew to become industry leaders, Fairchild itself fell pitifully behind in semiconductor technology through the 1970s. Fairchild has, however, been very successful in the test equipment market.

total £25m a year. In addition its U.S. subsidiary Circuit Technology (CTI) at Long Island, which makes specialist hybrid semiconductors, has annual sales of \$20m.

About half MED's business is based in integrated circuits which are increasingly incorporated in sub-assembly hybrids. About 20 per cent of the devices produced are microwave, mainly used in defence applications.

The major markets are industrial, telecommunications and military application, and about half the company's sales are to other companies in the GEC group. Direct exports account for about 15 per cent of sales.

J.C.

INTEL

Falling prices hit innovation

INTEL is known as the innovator of silicon valley, and is running hard to keep up the reputation. The company aims to introduce over 125 new products this year. Many of these products will not however be in the components area.

Intel has gradually increased its interest in systems markets over the past couple of years and systems now account for about 40 per cent of the company's sales.

Intel's sales of integrated circuits totalled around \$544m in 1981. The company's strength is in microprocessors, where it leads in the 16-bit market with the 8086. Through a wide ranging technology exchange agreement with advanced micro devices Intel aims to share some of the costs of new product development in this area.

Last year Intel opened its "silicon foundry" operation—through which it has entered the market for manufacturing customer designed devices.

Like all U.S. integrated circuit manufacturers, Intel has experienced a slump in profits over the past year, due to the recession and falling prices. Intel reckons to have lost \$100m in earnings due to dropping prices on its memory products. The company has only just entered the battleground of the 64k Dynamic Ram market, but aims to become a major supplier by the end of the year.

Louise Kehoe

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IT'S TOUGH being an electronic consumer. You sit in your armchair, turn the on/off button or switch channels—with your remote TV control. So the programme isn't so good—record it on your superb electronic video recorder.

Wife is just returning from the Women's Institute meeting—the garage doors open automatically for her while the latest electronically controlled magnetic lock (when she is inside the house, of course) turns your property into some sort of electronic fortress.

Whether you like it or not, you are an electronics consumer. If you have bought a new car in the past couple of months it might be worth looking under the bonnet and at the dashboard. Recognise anything?

El Salvador. It all sounds like an electronic Utopia. I shall be able to call up my bank and order the mortgage payments, order a sack of potatoes and three pounds of butter from Tesco, and perhaps I can even convince the Financial Times that I no longer need to come to the office.

Just think I can awake, dial the News Desk and through my bedroom VDU phone a story, design the page, write the headlines, make corrections and still not shed my dressing gown.

But let's come down to earth—the cable television system has been reported to death—and look at the home-based electronics enthusiast.

This is the real armchair stuff. Wade through the Powertrain advertisement with complete electronic kits from £49 to £175 black boxes packed with punch.

Move to Watford Electronics (you will need your glasses for the close five or six point type-setting). The computer corner offers you switches, transformers, crystals, relays, panel meters, transducers, buzzers and books about all of them.

This marvelous magazine follows on with three pages of News Digest looking at the electronic developments of the decade.

First-class headlines, "Tweeters that go cheap," "Electroware, OK!," "Sticky Clips," "Video Victory," and a beautiful one—"Grabbed by the Dooleys."

With a headline like that, one just had to read it. It starts off: "Those tireless chappies down at Casio have taken time off from designing BASIC computers and arcade games... and have turned their attention to the music scene..."

Electronics Today is first class on its graphs and diagrams. One feature had no fewer than 26 diagrams and equations.

The magazine produced a sort of leading article headed "10 Years On" in which it reviewed the dramatic history of electronics since 1972.

The birthday issue charted the course of the news pages, the first calculators, the first digital watches, the first MPU chips, cheap memory, the first Space Shuttle tests, bubble storage.

With commendable honesty it records manufacturers' successes, failures and its own mistakes. It ends: "It's an interesting conjecture as to what we shall be able to include in our 21st birthday issue." Any guesses?

So you have every little bit of electronic gadgetry installed. What's left? How about a nuclear radiation monitor?

Idea! After the holocaust. Radio and Electronics World says its hand-held monitor will detect gamma radiation, producing an audible click for each quantum of radiation received.

The instrument is of medium sensitivity to allow its use with radiation levels between one milliroentgen per hour and one roentgen per hour.

As Radio and Electronics World says, the unit will find many applications in schools, hospitals, power stations or any branches of industry using radioactivity materials.

But then one gets to the real nitty-gritty under a cross-heading which says: "After the Bomb."

Quote: "A nuclear radiation monitor is likely to be a very valuable asset to the survivor of a nuclear war. The levels of radiation are likely to be much higher than that measured with the R and EW monitor."

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Sprague Scandinavia AB, Invernessgatan 11, S-192 20 Ericsonsd, Sweden, Tel: 08-25 01 20

THOMSON-CSF Defence benefits

THE SOCIALIST planners who have been rethinking France's microchip strategy want a less dispersed industry which is able to invest close to \$1bn between now and 1985. Detailed plans are not available yet but it seems clear that the chief role will be given to Thomson-CSF. The company, now under state-control, but with an unchanged team, already leads as a supplier to the French market, with total component sales last year of \$560m, three-quarters of these in France. It was one of three French companies to get backing under Giscard for Metal Oxide Silicon (MOS) circuits—and unlike the others was able to spend it all on research and development.

Its bipolar circuit side is being amalgamated with Efcis, a joint venture between Thomson and the Atomic Energy Commission (CEA) which went into standard circuit production under the first components plan in 1978. Thomson-Efcis, as it is now called, which keeps the CEA in as a minority partner, expects turnover of \$125m this year and \$400m-plus in 1986.

Its head, M. Paul Mirat, a former CEA man, is an enthusiast with a belief in a special French aptitude for conception and design of microcircuits.

He sets store by the fact that Thomson, unlike Matra and Saint-Gobain which have U.S.

shareholding partners in their microchip ventures, is master in its own house.

This leaves it free, despite a licensing agreement with Motorola, to negotiate with other foreign companies—which it is actively doing. The Japanese, says M Mirat, have proved the benefits of shareholding independence. But Thomson also has another reason to keep to itself—its big defence involvement.

It is preparing to launch a new generation of products, concentrating on areas where it can produce innovative, key components using its own technology. The main lines are telecommunications and video systems, microprocessors and mass consumer products—for instance, components for electronic video cameras.

Being part of a much larger group—the recently nationalised Thomson-Brandt—is seen as giving the company two big advantages. One is a far-flung marketing network, which helps its efforts in the U.S. and Japan. The other is the group's leadership in French household electricals. Consumer products, M Mirat points out, are where the Japanese started for their assault on the components business.

David White

The manufacturing of devices for in-company use is a fast-growing sector Where do-it-yourself pays off

AS SEMICONDUCTOR chips rapidly become denser, with more and more transistors packed on a chip, the integrated circuit has become more of a sub-system than a component. So many of the functions of a system are held on so few chips, that the old definitions begin to break down.

Similarly, it is becoming more difficult to describe accurately one electronics firm as a systems house, and another as a component manufacturer. Increasingly, system manufacturers are making some of their own chips, and chip-makers are building some of their chips into systems.

When Intel, generally considered to be a component maker, says that 40 per cent of its revenues come from system products, one might well ask which products it considers to be systems—and which components.

Take, for example, the Intel 32-bit microprocessor chip set. This is one of the most advanced implementations of VLSI (very large scale integrated circuit) design to date. On five chips of silicon resides the power of a mainframe computer. Are those chips components or systems?

Moving in the same direction, Hewlett-Packard, known for its instruments and computers, has developed its own 32-bit chip set and is manufacturing it using some of the most advanced semiconductor processing technology in the world.

"Captive" chip manufacturers—those who produce devices strictly for in-company use—are growing much faster than the merchant market producers. By the end of the decade, the value of devices produced by the captives in the U.S. are expected to equal that of merchant market suppliers.

Already the captives make one third of all the integrated circuits (by value) produced in the U.S.

Most of the large captive component manufacturers are computer companies, the largest being IBM which alone is expected to manufacture \$2.1bn worth of ICs this year, making it the largest IC pro-

ducer in the world, according to market analysts Integrated Circuit Engineering of Scottsdale, Arizona.

Other major manufacturers in the captive class include Western Electric, which makes devices for AT & T and Delco, a subsidiary of General Motors. All the major manufacturers, including Hewlett-Packard.

Alternatively, the systems manufacturer may, as it were, sub-contract the chip processing to a silicon foundry service such as that offered by Intel. The silicon foundry offers the systems manufacturer many of the advantages of in-house production, without the enormous capital investment (production equipment for a moderate semiconductor production facility now costs in the region of \$20m) required to set up a semiconductor manufacturing facility.

With the exception now of the 64K ram, Hewlett-Packard makes only custom-designed chips on its own wafer fabrication lines. In February, HP revealed its "super chip set," a group of devices that HP will use to build a new computer system later this year.

The super chips—which hold as many as 450,000 transistors—are three times as closely packed as any now available on the open market. HP's chip technology is fast becoming recognised as among the most advanced in the world. HP is expected to increase its internal chip production to around \$160m worth of devices this year.

While HP has recently put the first "standard" chip product on its in-house production lines, another computer maker, National Cash Register, is moving in the opposite direction to start selling some of its own designed parts on the merchant market, and NCR is offering other systems manufacturers silicon foundry services too. NCR's objective is to produce about 60 per cent of its internal needs for semiconductor chips and to offer left over capacity to others.

By contrast, Burroughs, another major computer maker, is cutting back on its chip-making activities. The company has stopped making chips that it can buy elsewhere, and is only producing custom devices.

Finding the best location for a new base is no easy task. Most areas have their attractions, after all. And you can't afford to discover their shortcomings after you've moved. So, who are you going to listen to? If you take our advice, you'll take someone else's. Someone like Mr Noguchi here—joint managing director of Mitsubishi Electric (UK) Limited. His opinion, biased though it is, carries a lot of weight. "Our criteria were simple," he says. "We needed first-rate, skilled labour, local component manufacturers, and a market for our products."

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FUJITSU Domestic leader

LIKE Japan's other top electronics manufacturers, Hitachi and NEC, Fujitsu is heavily involved in both computers and integrated circuits. The company's computer division overtook IBM Japan in the late 1970s to occupy the first place in Japan's domestic market in integrated circuits.

Fujitsu's present ranking fifth or sixth but the company stresses that this relatively modest position belies some very special strengths.

Fujitsu has deliberately avoided competing with NEC and Hitachi in the manufacture of semiconductor products for use in consumer products such as TV sets or electronic calculators. Instead it has focused on the kinds of ICs that are used in computers, automation machinery and communications equipment.

Fujitsu claims first or second position among Japanese manufacturers in these specialised areas. Its position in 64 kilobit dynamic Random Access memories is described as "very strong" and the company claims to possess the world's most advanced technology in gate array and semicustom logic circuits.

If Fujitsu differs from its large Japanese rivals in having focused to date on a few carefully selected market sectors it resembles them in having pursued an extremely aggressive development and expansion policy during the past few years. Investment in the company's integrated circuit division has been run-

ning at an annual rate of 730m (\$121.45m) per year for the past three years and is expected to remain at roughly this level.

This works out at around 30 per cent of the (current) total value of the company's IC production (about ¥100bn per year, including ¥20bn worth of "in house" production).

Fujitsu has not only gone all out to increase production capacity. It also took an active part in the Japanese Government-sponsored project for joint development of basic Very Large Scale Integration know-how which ran from 1976 to 1980. Fujitsu's four partners in this project were its principal competitors, NEC, Hitachi, Toshiba and Mitsubishi Electric. However, the joint research project confined itself to developing basic know-how for the manufacture of 64 k Rams. Design of products for the market was carried out separately by each company after the joint project ended in spring 1980.

Fujitsu today produces integrated circuits at five factories in Japan, as well as one in Ireland (where its assembly plant went on stream in 1981) and one in San Diego, California.

In the context of Fujitsu's overall operations integrated circuits are still easily overshadowed by the dominant computer division.

Charles Smith

FINANCIAL TIMES SURVEY

MEDICAL ELECTRONICS

7 July 1982

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The size, contents and publication dates of Surveys in the Financial Times are subject to change at the discretion of the Editor.

ELECTRONIC COMPONENTS V

A world where silicon still dominates

DARWIN WOULD have liked the semiconductor industry. Its principal evolutionary path is clear and fixed. Silicon will continue to hog the stage...

HP built a perfectly respectable 16-bit microprocessor with it and used it in the 9825 desk-top computer. The company now retains its interest in silicon-on-sapphire technology...

conductors. Why is silicon so useful, and what are the limits to its use which makes research into other materials necessary? Bardeen, Brattain and Shockley invented the transistor, a solid state device with the ability both to amplify an electric current or act as a...

silicon. Silicon has its limitations, especially in speed. Mr David Wilcox, a design engineer at Plessey, which has developed some of the most sophisticated high speed counters, points out that a counter fabricated in conventional silicon can run at 1.8 thousand million cycles a second. A counter fabricated in sapphire material which is exciting considerable interest these days, gallium arsenide, could run twice as fast.

Gallium arsenide is probably the most important of the newer semiconductor materials. Research into its properties and potential is being undertaken at a series of commercial laboratories throughout the world including Bell Laboratories, Burroughs, Hewlett-Packard, IBM, ITR, Texas Instruments, Philips, Plessey, Thomson-CSF, Fujitsu and Hitachi.

phosphates or indium arsenates. The high power users used for communications through glass fibre optic waveguides utilise complex compounds such as gallium indium arsenide phosphide to achieve exactly the right wavelength. Gallium arsenide circuitry offers the possibility of high speed computation in a system which would not need elaborate cooling methods because of the lower power requirements expected of gallium arsenide chips.

Materials technology

ALAN CANE

simple switch in 1947. It was, some would argue, the major invention of the century. It certainly led, some 20-odd years later to what we now call the microprocessor revolution.

These earliest transistors—which replaced large, expensive, current consuming and heat producing valves—were fabri-

Silicon Valley success

RIDING the wave of success in the custom-chip business is American Microsystems Inc. While other chip-makers have regarded custom devices as a sideline, 75 per cent of AMI's revenues come from "tailor-made" circuits. Through-out the current recession in the semiconductor industry, AMI has remained profitable, unlike many of its Silicon Valley neighbours.

Tailor-made chips enjoy a boom

THE MARKET for standard electronic components is in a slump, but sales of "custom" chips—those that are tailor-made for a particular application—are booming. Industry estimates put the size of the custom chip market at \$680m today, growing to \$1.4bn by 1984.

consumer applications. Alternatively, they have been used in the rare instances when standard components cannot meet the performance required for a particular application. Making considerable use of computer aided design systems, chip-makers can now tailor a circuit for a customer's needs from a library of predefined circuit functions.

last year, the number of chip designers in the U.S. was estimated to be only about 2,000. A vast new market has opened up for "customer designed" chips. Industry estimates suggest that over 40 per cent of custom chips will be designed by systems manufacturers by 1984.

For applications in which a full custom circuit cannot be justified—because of cost and volume requirements—another solution is the uncommitted logic array, or gate array. These circuits, which are often called semi-custom circuits, are a matrix of unconnected logic functions. The logic array is "customised" by adding a layer or two of interconnections that define how the circuit performs.

Custom circuits

ELAINE WILLIAMS

tion lines of the standard chip makers. Intel, one of the latest companies to enter the silicon foundry business, estimates that the market for such services is worth \$135m today, and that it will grow to \$680m by 1985.

Designers still strive to improve the performance of each Rivalry between MOS and bipolar processes

FASTER, smaller, cheaper: these aims are always at the top of a semiconductor designer's list. Since the early 1960s it has been the pattern that every two years the complexity of a silicon chip doubles but the price continues to fall.

Over the years, however designers have been striving to improve the performance of both technologies so that the relative disadvantages of both are less apparent. In general however, bipolar technology still remains superior for applications where digital signals have to be translated into analogue forms.

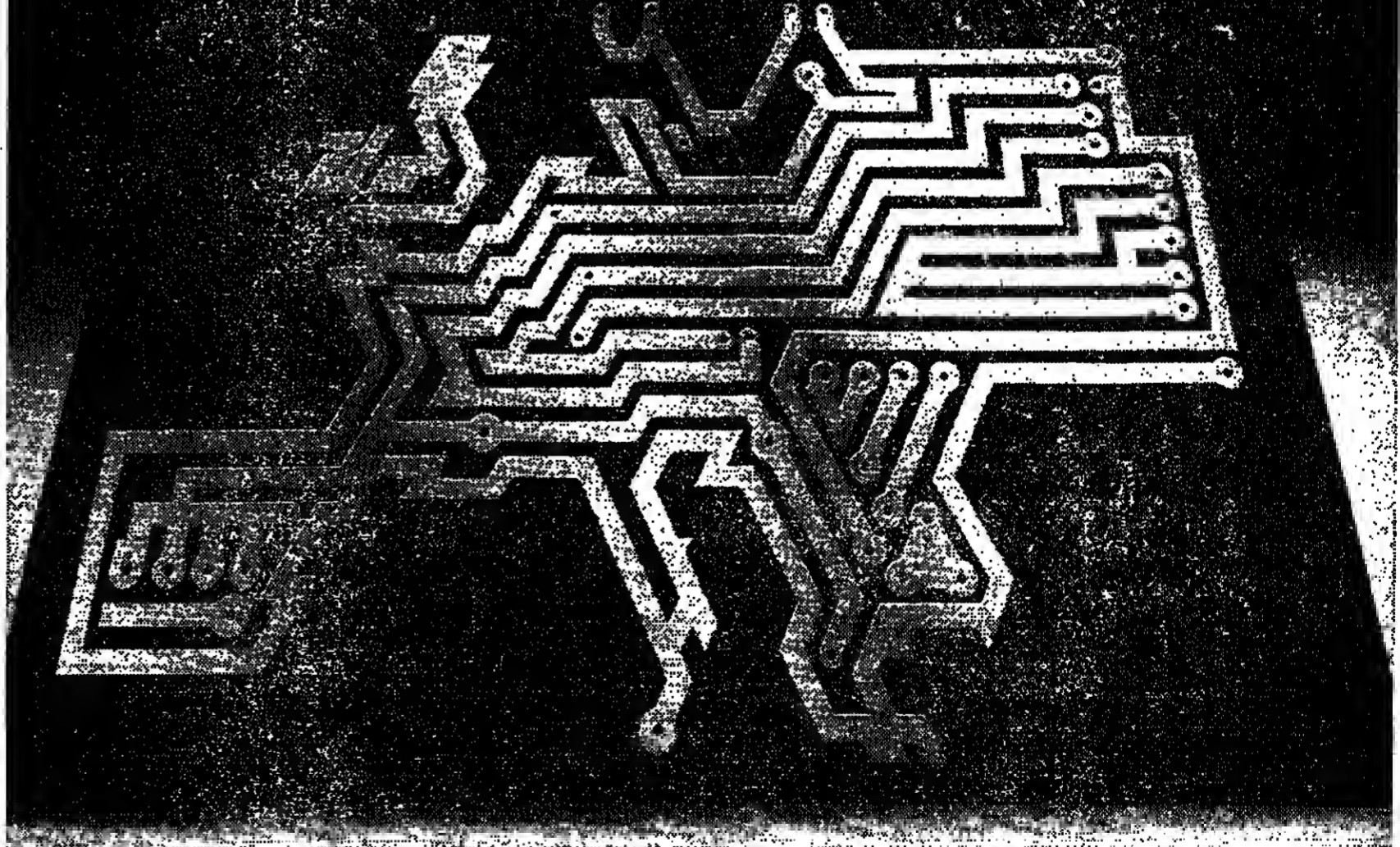
those involved in their design. For many reasons, companies need special components which require a customised circuit but do not want to pay the price of having it exclusively designed for them. This has resulted in the growing popularity of logic arrays which are half way between a standard circuit and a special design.

Developments

ELAINE WILLIAMS

large-scale memories and has generally overtaken bipolar technology for many applications. In addition to these large memories and microprocessors circuits which can be used in the telecommunications industry are under development. The telecommunications industry is now undergoing changes from electromechanical to completely electronic techniques and this, tied to the growth in automated office systems, is demanding silicon chips which can control the operation of telephone call connections.

Hybrid microelectronic circuits, in effect tiny printed circuit boards, have been making steady rather than revolutionary progress over the past few years. Hybrid circuits are made by depositing conductive, resistive and dielectric materials in film form onto glass or ceramic carrier substrates.



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ELECTRONIC COMPONENTS VI

Sheer complexity of design makes more demands on automation

Aim is flexibility and speed

UNTIL ABOUT 1960, the design, manufacture and test of electronic components and the functional circuit boards on which they were mounted to make electronic equipments was a relatively simple matter.

The designers, with their slide rules and basic measuring instruments, essentially used "cut and try" methods on their "breadboards" until the designs were perfected. The outcome was seldom any more than a few hundred components mounted between parallel rows of tagboards bolted to an aluminium chassis.

Then, electronic manufacture was entirely performed by skilled ranks of operators armed with soldering irons. Only in the valve industry was much automation apparent, although the other component makers had their specialised assembly machinery.

Testing was really a question of old style "troubleshooting" with test engineers poking about in the chassis with meter probes. Component testing was a relatively straightforward measurement task.

All that was changed by the onset of digitalisation and the invention of the integrated circuit in 1960. Designers applied themselves to packing more and more digital circuits into less and less area of silicon "chip" so that, in conventional testing terms a serious difficulty arose: large numbers of previously accessible test points had disappeared into a little black box about the size of a cough lozenge.

Circuits became components—and the old style component makers had to think again. Completely new industries were born. Computer aided design (CAD) began to provide much needed assistance to chip and board designers and automatic test equipment (ATE) to test the components. Assistance to testing, which before long was to become impossible by conventional means.

Today, the CAD market is worth about £120m annually, world-wide and is likely to treble by 1985 according to International Technology Marketing, the U.S. research company. There are now about 1700 CAD installations; between 1976 and 1984 the growth rate will turn out to be some 35 per cent per annum says ITM.

Basically, CAD allows designers to "compose" their circuits on a screen, with rapid auto-placing of circuit segments, computer derived routing of connections (automatic checks for optimal placing of the items for best connectivity) and so on.

But the nature of the CAD offerings for integrated circuit (IC) design is beginning to change. For a long time they

are almost impossible manually. The need for extensive design rule databases held on disc stores, large files of cells (functional circuit elements) and physical shapes plus the need for great precision have all meant that computer assistance is unavoidable.

It is unavoidable, too, because of the shortening life cycle of the modern electronic system product. To remain competitive, systems houses need their chips faster than ever—and this is only possible through design automation.

The more recent VLSI (very large scale integration) circuits are proving to be something of a problem due to sheer complexity, so that CAD systems concerned simply with the physical layout of silicon may not prove adequate.

Many CAD companies are moving towards systems in which, for example, the tasks are split between several workstations, some working on logic verification and others on timing problems.

Just as much effort is going into printed board design systems and these are now about twice as many installed as there are IC systems due to extensive use by equipment makers. Such systems are viable provided that about 50 new board designs are performed annually with about 100 ICs per board.

After design comes manufacture and both semiconductor companies and their equipment-making customers have employed automation widely. Using equipment mostly made in the U.S., the chip makers are able to directly step patterns on the silicon wafer (instead of on to a larger photo-master) and carry out most of the subsequent assembly operations under some kind of computer control. Lead bonding to circuit pads is now no longer a matter of female dexterity in many plants.

Given enough throughput, board production is also worth automating. For example, the IC content of a board can be inserted automatically by machines that move the board about on an X-Y table while the ICs are selected from storage stacks and their feet pressed into the board.

Other machines can deal with separate resistors and capacitors from handiolders of pre-sequenced components.

Then, the other side of the board is soldered up automatically on a flow soldering machine.

Finally, the product must be tested, be it component or board. For the IC maker the problem is that cost of testing each new high volume device grows with its complexity while at the same time the price per piece tends to drop. Thus, maximum flexibility and speed of testing is the objective, while test quality must be maintained.

Half a dozen companies share the IC/ATE market, now probably worth about £200m per annum according to Dataquest, the survey firm. Challenges appear for the makers all the time and are helping to keep up sales in a market which is not quite what it was in the buoyant 1975-79 period. They include the 64k Ram, 16 and 32 bit microprocessors and bubble memories—the SC industry has to stay on its toes.

There is a frequently quoted rule of thumb in the electronics industry: if it costs £1 to find a faulty component at the component test stage, it will cost £10 to find it on the board, £100 in the equipment, and possibly £1,000 after delivery.

By 1984 the ATE market is expected by Dataquest to reach about £800m, although for the moment the recession-induced drop in semiconductor sales is bound to be reflected in test equipment figures. So the market leaders are locked in battle.

Design and Testing

GEOFFREY CHARLISH

Design and testing were concerned largely with easing the design problems of the big semiconductor companies making standard circuits.

Standard ICs however, are now no longer all-powerful in the market place and there is increasing emphasis on the gate array and custom chip.

In the gate array the semiconductor chip surface is covered with circuit "cells" that can be connected together with application—specific tracks to suit the customer's objectives. Some cells are wasted. The custom chip however, is fabricated precisely, from scratch, to meet the customer's needs; so production runs must be large.

Both need CAD simply because there can be tens of thousands of active elements on a chip—whole computers in fact—and the task of design

TEXAS INSTRUMENTS

Weathering the recession

Texas Instruments is the world's largest producer of semi-conductor components. The company ranks second in the production of discrete components with estimated 1981 sales of \$343m and first in integrated circuits with 1981 sales of the order of \$1,400m.

Recently TI announced lay offs of 3 per cent of its workers world-wide, about 2,700 people, mostly in the semi-conductor and personal computer production divisions. TI is, however, believed to have weathered the recession better than most U.S. semiconductor producers.

The company has the only major, wholly-owned American IC production facility in Japan where it is producing the bulk of its 64k ram devices. TI has been relatively successful in the 64k ram market, taking about 15 per cent of the market.

The company is an active participant in the U.S. Department of Defense VHSIC (very high speed integrated circuits) programme and is leading the field in the implementation of new automated integrated circuit production processes.

TI is by far the largest producer of a wide range of TTL circuits which remain the workhorse of many electronic systems. In the microprocessor area, TI has been particularly successful in the high volume market for low-cost single chip microcomputers that go into all sorts of consumer products.

Apart from components, TI has large businesses in calculators, electronic toys and personal computers.

Louise Kehoe



The RAF's multi-role combat aircraft Tornado and some of its weaponry: big users of electronic devices

Military needs push back the frontiers

MODERN WARFARE—and the development of the necessary weapons to conduct it—has become increasingly orientated towards electronics over the past few decades, and the pace of that development is accelerating.

There is now hardly any single combat arena that does not have its own complex electronics requirements, whether it be for the launching and guidance of underwater long-range ballistic missiles, through the control of anti-tank missiles and laser target range-finding instruments on land, to the acquisition, identification, tracking and attacking of hostile aircraft thousands of feet above the earth and thousands of miles out over the North Atlantic ocean.

The range of military electronic equipment is vast, encompassing not only communications through radios, radars, data transmission systems and other devices, but also to unique items such as "head up display units" to make high-speed aircraft pilots' tasks easier, and automatic terrain-following equipment to enable aircraft to penetrate an enemy's defences by flying beneath his radar screens.

All of this equipment is provided in two broad ways. It is either acquired directly by the armed forces through the Ministry of Defence on the basis of purchases of equipment initially developed by industry for the commercial market, or it is developed specifically for the armed forces in response to precise specifications drawn up by the forces to meet particular requirements.

being done were given, however, a last year's Defence White Paper. For example, it was stated that the RAF's main task in EW is to protect its aircraft from surface-to-air missiles, anti-aircraft artillery and air defence fighters.

To counter such threats, the Tornado in its basic strike version is being fitted with automatic radar warning and jamming equipment, as well as counter-measures against attacking missiles which are themselves equipped with such devices as infra-red homing aids, to enable them to hit the target with great accuracy.

EW is playing an increasing role in the Fleet, and substantial improvements in this area are planned for ships, submarines and aircraft. These include Sea Gnat, a new shipborne system for detecting anti-ship missiles; new shipboard

Electronic defence

MICHAEL DONNE

jamming; and new and improved methods of alerting the defending forces against impending attack.

On the land, a programme of studies on every aspect of Electronic Warfare is being undertaken to help the development of future equipment, while existing communications systems for all three armed forces are being improved.

With so much of the defence electronics activity being covered by security, it is difficult to determine just how much of the work that is done for the military helps in the development of electronic components for commercial use, but it is bound to be a significant amount. With so much money being pumped into the industry militarily, it is inevitable that there will be a major spin-off for the civilian community from defence-inspired technological advances in electronics.

Work done on military radio systems, for example, such as Flatmigan, and in such areas as radar, integrated circuitry, and visual display units, is already having its effect in the civilian arena.

It is significant that the major electronics companies in the UK are all big recipients of military contracts. The last Defence White Paper revealed, for example, that General Electric and Plessey each received over £100m for defence equipment in 1979-80 (the last year for which figures are revealed), while EMI and Ferranti each were paid between £50m and £100m, Racal between £25m and £50m, and companies such as Cosser, Smiths Industries, and Thoro Electrical between £10m and £25m.

Without such inputs of military cash, and without the challenges of breaking new ground at the frontiers of electronic technology that the military requirements generate, it would be much more difficult, if not impossible, for the electronics industry to advance at its current pace.

Change of strategy

INTERNATIONAL Telephone and Telegraph is a U.S.-based conglomerate whose 1981 sales were \$23.2bn, including revenues from finance and insurance. The company's electronics components group accounts for about 6 per cent of global sales, but some of the company's other activities, such as telecommunications equipment, also involve electronics.

ITT's semiconductor group, with facilities in France, the UK, the U.S. and West Germany, claims to be Europe's largest producer of electronic memories. ITT also makes silicon diodes for use in various consumer electronics applications.

In recent years, ITT has acquired two other electronics-related companies in the U.S., Qume, which makes high-speed printers for word processors, and Courier, which makes video display terminals, mainly for IBM.

to bring together its expertise in its various electronic areas and can be expected to enter new areas in the 1980s, although for the moment the company seems to be concentrating upon its core telecommunications business and upon various operational and software developments in electronics.

As a major international telecommunications operator through its ITT Worldcom subsidiary, ITT is also trying to pursue a "communications package" approach to marketing its hardware and software services.

In Europe, the company is also a major consumer of electronics components made by others for use in its television, consumer electronics and appliance businesses. Much of this product is now made in Japan and sold in Europe under the ITT label.

ITT is working on a strategy

Ian Hargreaves

Product lines ripe for pruning

When Siemens West Germany's giant electrical concerns suddenly disclosed last year that Dr Friedrich Baur, the brilliant engineer who headed the company's components division was quitting, the announcement was perhaps the clearest signal from the company that a far-reaching revision of the divisions operations was underway.

Dr Baur was the man who was widely credited, both within and outside the company, with the successful development of the Siemens capacity to produce integrated circuits, and so began to close the gap which had opened up in the vital field of micro electronic components between Siemens and its rivals in the U.S. and Japan.

Between 1970 and 1980 Siemens Components Division alone spent some DM 500m (£117m), of which about DM 100m came from the West German Government in building up an integrated circuit capacity. By last year the integrated circuit group in the components division was recording annual sales revenues of some DM 500m, about DM 200m of which was own production.

Inevitably, Dr Baur's departure, coupled with reports (since confirmed by the company) that the components group suffered heavy losses in 1981, raised questions about whether the company's ambitious venture in micro electronics was going wrong, especially since it took place against the background of a collapse in the world market.

In fact, according to knowledgeable insiders, it was not the high technology micro electronics side of the components division's business which was the root of the problem but discrete components, the other side of the division. Indeed earlier announcements about the rationalisation of the discrete components business hinted at this.

Inevitably in all areas of its operations Siemens has been tightening its belt and pruning its product lines in order to concentrate its resources. The components division was making around 100,000 different products and has been ripe for this pruning process. Ironically the integrated circuits division within the group had previously undertaken just such a rationalisation programme.

It was the determination of the top executives of Siemens to tighten up operations and improve profits that led to Dr Baur leaving, in spite of his reputation as a technician rather than embrace the top management policy.

Stewart Fleming



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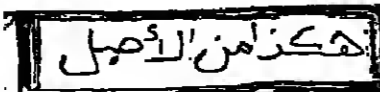
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Today, more and more of the top names in electronics have made Ireland their European base. Apple Computer, Amidal, Atari, Dataproducts, Digital, Ericsson, Fujitsu, Measurax, Mostek, Varian and Verbatim are just some of the companies already located here.

IDA Ireland The Irish government's industrial development agency has offices in London at 58 Davies St, London W1Y 1LB. Offices also in Dublin, Amsterdam, Paris, Cologne, Stuttgart, Milan, Copenhagen, Madrid, New York, Chicago, Los Angeles, Houston, Cleveland, San Francisco, Boston, Fort Lauderdale, Sydney, Tokyo.



Falklands' sovereignty defined

THE WEEK IN THE COURTS

BY JUSTINIAN

sovereignty is based on a faulty interpretation of international law.

FOR 150 YEARS, until last week, Britain had undisturbed occupation of the Falkland Islands, formally establishing colonial government there in 1842.

Argentina, which has never abandoned her claim of sovereignty over the islands...

Both Spain and Great Britain asserted title to the islands by discovery, the former through Vesputius and the latter through Drake and Hawkins.

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CLASSIC START

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RACING

BY DOMINIC WICAN

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2.45—Maskell Lad 3.15—Portugal 3.45—Lightfoot 4.45—Gay Salting 4.50—Nottingham 5.00—Mailman

TELEVISION

Chris Dunkley: Tonight's Choice. BBC2 begins another series of 100 Great Paintings with a week devoted to images of grief...

BBC 1

Indicates programme in black and white. 6.40-7.55 am Open University (Ultra High Frequency only)...

BBC 2

6.40-7.55 am Open University. 11.00-11.25 Play School. 1.30 pm Greta Garbo as Marie Walewska...

LONDON

9.30 am Cartoon Time. 9.35 Asian Insights. 10.00 Mysteries of Indigo Depths. 10.25 "Bandle (One of Them Days) starring Alice Bass..."

LONDON

TSW Late News. 10.35 Postscript. 10.40 Golfing Greats (George Sarazen). 11.00 Thriller. 12.30 am South West Weather.

RADIO

Two's Best (S). 2.00-5.00 You and the Night and the Music (S).

RADIO 2

5.00 am Colin Berry (S). 7.30 Roy Moore (S). 10.00 Jimmy Young (S). 12.00 (S) Humphrey Lyttelton (S)...

RADIO 3

6.55 am Weather. 7.00 News. 7.05 Morning Concert (S). 8.00 News. 8.05 Morning Concert (continued).

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COMPANY NOTICES

KLEINWORT BENSON (JAPAN) FUND

Notice of Meeting. Shareholders are invited to attend a General Meeting which will be held at the offices of Kredietbank S.A. Luxembourg...

Agenda: 1. Receipt of the reports of the Board of Directors and of the Statutory Auditor. 2. Approval of the financial statements and allocation of the results for the year ended December 31st, 1981.

THE BRAZIL FUND S.A.

TO THE HOLDERS OF BEARER DEPOSITARY RECEIPTS OF THE BRAZIL FUND S.A. Notice is given that an Extraordinary General Meeting of the Company will be held on Thursday, April 22, 1982...

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U.S. 20 MILLION GUARANTEED FLOATING RATE NOTE 1087 SERIES "A" Interest rate applicable to the above Note is the three month period commencing 28 April, 1982... BANK LEONI TRUST COMPANY INC. Principal Paying Agent

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EVE has, perhaps the others because of a policy of fair play and value for money...

OBITUARY

ROCH On March 30th 1982, peacefully with his family, Arthur Fawcett, late of 1904, Jaffa, Palestine. Late of 1904, Jaffa, Palestine. Late of 1904, Jaffa, Palestine.

FINANCIAL TIMES

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THE ARTS

Drill Hall, WCI La Ronde by MICHAEL COVENEY

Mike Alfreds' production for Sharned Experience of Arthur Schnitzler's sexual merry-go-round is the third this year...

Westminster Abbey

Walton's choral music by RONALD CRICHTON

Like Purcell and Sullivan and numerous other British composers before him, Walton was a boy chorister...

Museums Casting a net by GILLIAN DARLEY

The modern museum visitor is encouraged towards a passive state of mind. Experts have made selections, information is proffered and the design tends to support a particular way of looking at the objects on display...



A watercolour (c. 1875) of the East Court, looking north, showing some of the plaster casts in place

The casts assume the veneer of stone, bronze or whatever the original material in question might be, it is remarkably illuminating...

Haymarket A Coat of Varnish by ANTHONY CURTIS

An old woman is brutally done to death on a summer's night in her house in Belgrave. Everyone who might gain financially is rich already...

New Theatre, King's College

An alternative 'Tristan' by RONALD CRICHTON

Opera Viva, offering young singers and the more enterprising public a chance to get their teeth into music otherwise unlikely to come their way...

Festival Hall

Ashkenazy by DAVID MURRAY

There was much to be admired in Vladimir Ashkenazy's Saturday recital, less to excite than the piano has been at festival...

Hampstead Meetings

Mustapha Matura crams three plays into one...

Mustapha Matura crams three plays into one, and offers an enjoyable, well-acted mess. Bright domestic comedy stumbles into serious social comment...

Menotti premiere for Bristol

Bristol Opera Company has announced as its 1982 production the British stage premiere of Gian Carlo Menotti's three-act opera The Saint of Bleecker Street...

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THEATRES

ALBANY 5.30 3.75. Credit cards 3.75. The Royal Opera. This at 7.30. The Royal Opera. This at 7.30. The Royal Opera. This at 7.30.

KINGS HEAD 2.30 1.15. Der 7. Show. The Royal Opera. This at 7.30. The Royal Opera. This at 7.30. The Royal Opera. This at 7.30.

ALBANY 5.30 3.75. Credit cards 3.75. The Royal Opera. This at 7.30. The Royal Opera. This at 7.30. The Royal Opera. This at 7.30.

F.T. CROSSWORD PUZZLE No. 4840

A crossword puzzle grid with clues for Across and Down. Clues include 'Settled belief in company verdict (4, 10)', 'Rear coach (5)', 'Decline independently to disintegrate (4, 5)', etc.

FINANCIAL TIMES BRACKEN HOUSE, CANNON STREET, LONDON EC4A 4BY...

Monday April 5 1982

THE FALKLANDS INVASION

Argentina: behind the euphoria

By Jimmy Burns in Buenos Aires

Jingoism is not the way

THE ARGENTINE seizure of the Falkland Islands is an outrage. Military invasion is an illegal and immoral means to make good territorial claims, however strong nationalist fervour may be at home.

The seeming confusion with which British ministers reacted on Friday, as news of the invasion began to barden should not blind one to the fact that a diplomatic success, maybe small, but also significant, has been achieved.

Only Panama, with obvious reasons for Latin American solidarity, voted against. The Soviet Union, and its Polish follower, abstained. So did China and, with its own interests in Gibraltar in mind, Spain.

Britain therefore, is in a position to marshal a powerful coalition of opinion, from Kampala and Kinshasa to Washington and Paris, against the Argentine attack.

Flushed as they are with their military success, the Argentine generals will not find that prescription palatable. It is up to world opinion and to those who expressed it in the Security Council to make them see reason.

The lesson of Friday's invasion is that in the end you cannot negotiate successfully from a position of weakness.

Similarly hard facts need to be considered in discussing the military possibilities. A British naval force operating in the South Atlantic would be stretching its lines of supply to their limit and maybe beyond it.

Several solutions

Amid the hubbub it is therefore essential to keep eyes firmly fixed on a viable long term solution. Political morality demands that such a solution should not pass over the wishes of the Falkland Islanders who wish to preserve their traditions.

Several such solutions have been proposed. A condominium was one of them. Buenos Aires turned that down on the historical argument that sovereignty over the islands resides in Buenos Aires as heir to the Spanish empire of long ago.

One could think of other ways out. A statute of autonomy underwritten by the UN is intellectually conceivable. Provided it were to be properly drafted and secured, it might go far towards meeting the Falklanders' wish to lead their own lives.

Each of the long-term solutions would require both disputants to swallow some of their pride. But they would have the merit of recognising that the Falklanders have rights of self-determination. They would also take account of the fact that geography makes the Falklands dependent to some degree on economic and communications links with Argentina and, in the long run, makes British protection for them a herculean task.

Political differences

The fact of the matter is that the Argentine Government believes that it has created a fait accompli. Buenos Aires will not budge unless the world at large and Britain especially are determined not to acquiesce in that Argentine vulnerability to economic and other pressures should not be overlooked. A case can therefore be made out, at the very least, for keeping the Argentine Government in doubt about British intentions. If the Argentines know that nothing can happen to them, then they will hardly be likely to entertain the idea of compromise. There should, however, be no mistake about this: it is the Falklanders themselves who would bear the brunt of any attempt to retake the islands.

What is deplorable is that the issue is rapidly becoming mixed up with political differences within Britain itself which have nothing to do with the matter in hand. Not only the pride of the Argentine Government is involved. So is the standing, perhaps even the survival, of the Tory Government in Britain. That does not make for rational action on either side.

In truth, the British Government does have questions to answer. Why was it so evidently taken by surprise? Why had it misread the signals from Buenos Aires so badly that it neither took precautions, nor made a supreme effort to advance by its own chosen route of diplomacy?

The results of negligence cannot be undone by something near panic. Ministerial statements in the first humiliating hours of the crisis have suggested a determination to drive out the invaders and reoccupy the islands; but to what end? There is no point in a large expenditure of force to reassert a right which, as the Prime Minister herself pointed out, we have not the means to sustain in the long term. It is precisely because no substantial British interest was involved that the crisis was allowed to arise in such a careless way.

IT IS hard to convey the extent and depth of the change that has occurred in Argentina in just three days.

His most poignant symbol lies in the streets of euphoria that pervaded the streets of Buenos Aires following the Argentine military invasion of the Falkland Islands early on Friday.

In the eyes of many Argentines President Leopoldo Galtieri had become the hero of a historic moment in which the country's armed forces had at last found their raison d'être.

Only a week before thousands of Argentines had covered the presidential palace in the first major demonstration against a military government since the 1978 coup. Yet on Friday many of the same people linked arms with the same security forces who had previously beaten them to the ground, joyously waving Argentine flags and bringing President Galtieri on to the balcony of the presidential palace to rapturous applause.

The background is necessary to understand President Galtieri's vow that the military will remain in the Falklands and will "go to battle" if and when a British task force arrives.

By invading the Falklands the Argentine military solved in a matter of hours what had eluded them in the six years they had been in government: the unification of the nation behind them.

The President's rhetoric should not be underestimated by Britain. When he took power only last December he promised that the "time for words had passed" and that the government would henceforth be judged by deeds alone.

Galtieri rose through the military hierarchy thanks to his reputation as a tough non-nonsense soldier in the fight against the Montonero guerrillas between 1976 and 1978. His few months of presidential power

have contrasted strikingly with the hesitancy of his intellectual predecessor General Roberto Viola.

President Galtieri may well be a man of action rather than words, but the international reaction to the invasion and the probable economic and military sanctions that may ensue from it over the next few days have put him and his regime in a quandary.

This quandary is exacerbated by the junta's failure to resolve severe economic problems. Argentina's inflation hit a world record—over 131 per cent—last year. Industry is going through its worst recession to over 16 years with large scale bankruptcies and a steady increase in national unemployment figures, now reliably reported to be around 13 per cent.

The Gross Domestic Product plunged by 6.1 per cent in 1981 and there is as yet no sign of economic recovery. Meanwhile the local foreign exchange market, the popular arbiter of Argentine economic performance, has been on a roller coaster for several months, with the peso plunging from 2,000 to the dollar to 11,000 in 12 months of wild fluctuations.

The full significance of the invasion may only just be beginning to penetrate the dense cloud of government propaganda and ultra nationalist excitement which still persists here. It took President Galtieri a whole day to react officially to Mrs Thatcher's counter invasion threat.

There was no parliamentary debate as in England, but there is as yet no sign of a decision behind the scenes.

The Argentines had anticipated a diplomatic victory at the United Nations and the result of the Security Council's vote on Saturday was a major setback. The Argentine foreign ministry had hoped that hours of intense lobbying had ensured

acknowledged as much yesterday on ITV's Weekend World programme, as he responded to his own backbenchers with increasingly hawkish noises.

Saturday's debate showed the full extent of the rage on the Government benches; not since the Suez crisis has a Government Minister caused such despair among his backbenchers as Mr Nott winding up. As soon as he sat down, the Government whips began rushing round in an attempt to persuade certain influential moderates that the worst thing for the party would be resignations.

As a result, the message to come out of the packed private meeting of Tory MPs after the debate was that the party was not looking for resignations now.

Initially, however, both Lord Carrington and Mr Nott got a very hostile reception indeed from the meeting. Successive speakers apparently made it clear that the Government should stop at nothing to get the

Islands back.

The Government, they said, should be prepared to declare war as soon as the task force left port. The time for long term diplomatic solutions, it was said, was over.

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Victorious Argentine troops raise their flag

the support not only of most of the third world but also of some European countries such as Spain, and major powers like the Soviet Union and China.

In the event the Soviet Union, China and Spain abstained, and the third world is far from heralding Argentina as the justified 'liberator from colonial rule' as many Argentines had hoped.

Panama's thesis that any military counter attacks against

Argentina would inevitably line up Latin American armies behind the Buenos Aires government is utopian, rather than real.

Indeed, Brazil, one of Latin America's major military powers, had supported Argentina's sovereignty claims but refused to condone the invasion.

Indeed Brazil may even be prepared to allow its ports as refuelling stops for the Royal Navy if and when it approaches

Latino American waters. Similar

feelings are shared by Chile.

The predominant consideration of Argentina's Latin American neighbours is the possible future direction of Argentine foreign policy.

They fear that any indication of Argentina's military exploits in the Falklands might tempt Buenos Aires to deal with its neighbours in a similar vein, particularly in territorial disputes like that which exists with Chile over the Beagle Channel.

The reaction of the U.S. has also surprised the Argentine Government. Since taking power Galtieri has gone out of his way to forge a strong relationship with Washington, particularly on such crucial issues as Central America. Buenos Aires had never really expected the Americans openly to support the invasion of the Falklands, but they had certainly looked forward to a position of quiet acquiescence.

Developments in the last 48 hours are therefore threatening Argentina with the prospect of international isolation. And besides this there is the possibility of further economic sanctions from Britain and possibly other countries. But on balance most Argentines remain submerged in the patriotic dimension of the military recovery.

Indeed the financial sanction announced by Mrs Thatcher over the weekend have been brushed aside as pinpricks. The threat of a British military counter attack is still generally dismissed as bluff.

However, independent analysts believe that major sanctions by the EEC and the U.S. would seriously damage the Argentine economy at a time when it is already extremely vulnerable.

Argentina is still heavily dependent on Western credit lines for balance of payments support and foreign banks like

the Bank of London and South America and the First National Bank of Boston have a strong profile domestically.

Western countries such as West Germany are not only important suppliers but also participants in key sectors of local industry like cars and energy. Europe also remains an important outlet for meat—one of Argentina's main agricultural exports.

Argentine military officers have boasted that their armed forces could put up a strong defence of the Falklands and, severely damage any British invasion fleet, but this smacks of psychology rather than logistics.

Independent strategists believe that any full-scale military confrontation between Britain and Argentina would almost certainly lead to the destruction of the Argentine navy and the loss of the bulk of the air force. Casualties would be substantial on both sides, but particularly heavy on the Argentine side.

President Galtieri's dilemma is that any climbdown over the Falklands at this stage could well destroy the prestige the armed forces have gained and might eventually precipitate the collapse of the military regime. Argentina could, of course, turn in on itself with a heavily protected economy and with the establishment of wider trade links with countries like the Soviet Union which already takes the bulk of Argentine grain.

Such a strategy however would be in outright contradiction of everything the current regime has stood for—a foreign policy firmly orientated to the U.S. and an economic recovery programme based on foreign investment. And that is to ignore altogether the political repercussions of a humiliating military defeat at the hands of the Royal Navy.

Britain: 'now it is the time for action'

THE SUPREME irony of the Argentine invasion of the Falkland Islands was that it should take place on the same day as the young Winston Churchill was appointed to a new job at Conservative Central Office to sell the party's defence policies to the electorate.

The Conservative Party has always prided itself—above almost all else—on its ability to defend Britain. Now, in an attempt to salvage that reputation, it is in danger of embarking on a course of action which some of its own MPs privately believe is unsustainable.

In the long term, some Tory MPs were saying yesterday that Britain may not be able to defend a possession 8,000 miles away to the South Atlantic, even if it can repossess it. But in the present mood of nationalist fervour that is not sentiment many MPs are prepared to express.

Such thoughts, said one MP, are unthinkable at the moment.

Now is not the time for thinking or defeatist talk. It is the time for action.

Indeed, most Tory backbenchers were insisting at the weekend that the Government's credibility depended on getting the islands back. They claimed to be convinced that the Government shares this view, and that it is prepared to go to any lengths to reclaim them.

By the end of the weekend, Ministers had raised expectations on the Tory benches to a point where many Tory MPs seemed to regard some form of military engagement as almost inevitable. In the circumstances, the Government's options could be very limited.

The price of failure to get the islands back—or of anything but a diplomatic sell-out—would be the head of at least one Cabinet Minister, and quite possibly two: the Defence Secretary and the Foreign Secretary, Mr John Nott, the Defence Secretary, more or less

acknowledged as much yesterday on ITV's Weekend World programme, as he responded to his own backbenchers with increasingly hawkish noises.

Saturday's debate showed the full extent of the rage on the Government benches; not since the Suez crisis has a Government Minister caused such despair among his backbenchers as Mr Nott winding up. As soon as he sat down, the Government whips began rushing round in an attempt to persuade certain influential moderates that the worst thing for the party would be resignations.

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Islands back.

Men & Matters. England expects... Did Margaret Thatcher have a premonition? I ask. Though the Prime Minister apparently got no advance warning from the Foreign Office of the Falklands invasion, some weeks ago she suddenly despatched an urgent order to the National Maritime Museum in Greenwich.

Some of the worst wounds... are the ones that don't show. It used to be called shell-shock. Now we know more. We know that there are limitations to the human mind. Soldiers, Sailors and Airmen all risk mental breakdown from over-exposure to death and violence whilst in the service of our Country. Service... In keeping the peace no less than in making war. We devote our efforts solely to the welfare of these men and women from all the Services. Men and women who have tried to give more than they could.

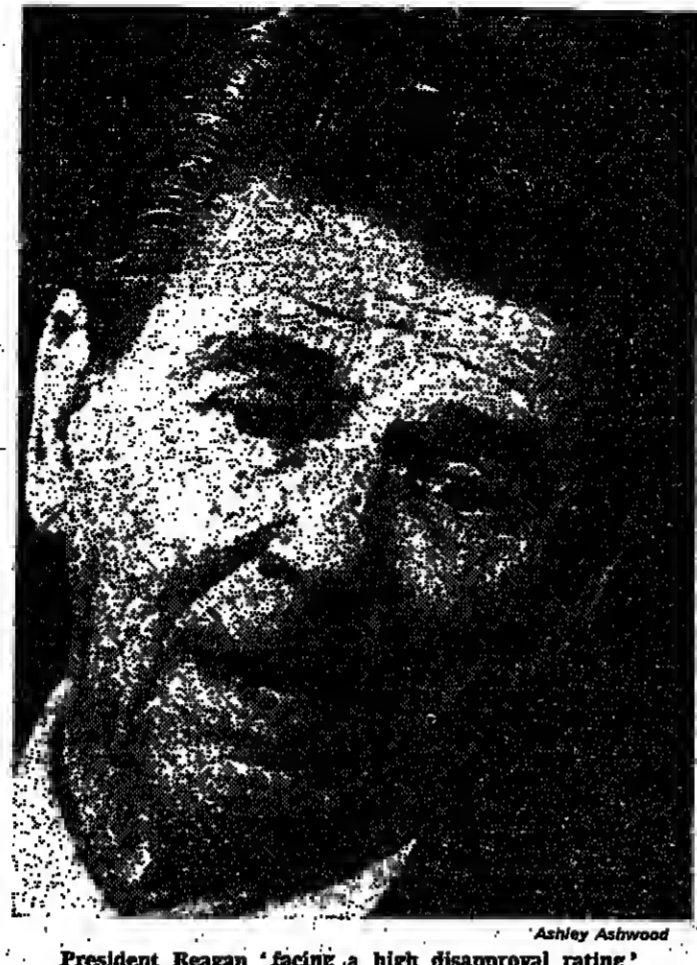
Observer

THE U.S. PRESIDENCY

Why Reagan's support is sliding

By Reginald Dale U.S. Editor in Washington

"IN SHORT, MR PRESIDENT, you have betrayed those Americans — and among them some members of our union — who voted for you on the basis of the promises you made." Reagan Stinks: very drunk lady on Denver, Colorado bar stool. The days of sensational, quick victories are mostly behind us. Now we move from the glamour of initial commitment to the grit of the long haul. President Ronald Reagan. Fifteen months into his Presidency, President Reagan is losing his image of amiable unpredictability. What last year looked like a watershed determination to solve the country's problems now begins to appear more like simple stubbornness. His opponents ridicule him almost every time he opens his mouth, and last week's much-maligned Press conference did little to repair the damage. However there is still no real common perception of Ronald Reagan — among Americans, whatever cynical Washingtonians may think about him. An enormous range of reasons is offered as to why people are for or against him, or more often, partly for and partly against him. Mr McBride listed five specific areas of economic policy in which he said Mr Reagan had broken campaign promises. A Florida estate agent admired him for sticking to his principles — notwithstanding the disastrous collapse of the housing market. A young army captain supports his defence policies, but is increasingly desperate over the high interest rates he has to pay on his second mortgage. A girl working in a Mid-Western flower shop could not care a hoot about his economic policies, but condemns him for failing to support the equal rights amendment for women. A black taxi-driver is strongly opposed to, even frightened by, Mr Reagan's anti-crime programmes, but thinks that the President is reasonably all right as a white politician, so probably better than his predecessor Jimmy Carter. "These are fairly representa-



President Reagan 'facing a high disapproval rating'

tive comments. Almost everybody has at least one reason for disliking Mr Reagan's policies and disillusion is beginning to show up strongly in the opinion polls. Even Mr Reagan's conservative supporters feel betrayed: they think his Administration has become infiltrated by liberal "weasels" under the leadership of Vice-President George Bush. The most recent New York Times/CBS Opinion Poll, taken in mid-March showed that the number of those approving Mr Reagan's handling of the presidency had fallen to 43 per cent, less than the 46 per cent who approved of Mr Carter's performance at a similar stage of his term of office. The latest Gallup poll gave Mr Reagan a 45 per cent disapproval rating, against only an equivalent 38 per cent for Mr Carter four years ago. More strikingly, he is approved by only 7 per cent of blacks. The 43 per cent approval rating compared with 49 per cent in January and 67 per cent a year ago — a figure that was almost certainly inflated by sympathy following the March 30 assassination attempt on the anniversary which Mr Reagan "celebrated," if that is the right word, last week. U.S. pollsters, however, caution that the figure must be seen against a trend in recent years under which each President loses approval just a little faster than his predecessor. Mr Reagan may be sliding more steeply than Mr Carter, who lost standing, slightly faster than President Nixon, who, in turn, lost public esteem more quickly than did President Johnson. If true, this is not much of a comfort to Mr Reagan, or to Republicans generally as November's mid-term elections loom closer, and there have been an increasing number of signs in recent weeks that Mr Reagan and his closest advisers are beginning to get a little rattled. Things have not gone according to plan. On the economic front, neither Mr Reagan, nor the big business interests that supported him so unquestioningly last year, expected recession to prove so obdurate. The long-awaited tax-cut package, however, is still disappearing into the mists of spring like a will-o'-the-wisp. Unemployment, at 9 per cent, is causing hardship and resentment at the Administration's policies. Nor did anybody in the

collapse of other Latin American Governments and endanger U.S. national security. An astonishing 42 per cent said they do not believe Mr Reagan's current intention of not sending U.S. combat troops to El Salvador, and more than 80 per cent said they would be against such a move. Asked if they would support young men who resisted a draft to fight in the country, 51 per cent said they would. The Administration has also been nonplussed by the strength of the campaign for a freeze on nuclear weapons — even in Right-wing Republican strongholds — that has now surfaced noisily in Congress. Mr Reagan backed one watered-down version of the freeze proposal at his news conference last Wednesday, but his response has been criticised as too little and too late. No one has yet produced a convincing reason for the phenomenon, although it is obvious that those administration talk about nuclear war-fighting can hardly have helped. The Washington Post/ABC News Poll also found that 45 per cent of Americans believed the chances of nuclear war had grown since Mr Reagan assumed the Presidency. Forty-six per cent felt he had not done enough to limit the nuclear arms race. Partly in response to this widespread sentiment and stronger fears in Western Europe Mr Reagan took to the television screen last Wednesday for the first time in the peak viewing hour of 8.00 pm. It was a gamble and far from clear whether it paid off. He came over as unusually unsure of himself and typically challenged by his Democratic opponents. The old magic — even the familiar home grin — was missing. The reason for the change in format was partly a growing feeling in the White House that the Press, and particularly the big three television networks, do not give Mr Reagan a fair deal. His eight previous Press conferences, all in the afternoon were in media jargon, "filtered" through the main evening news programmes. The White House staff, and Mr Reagan himself, argue they were unfairly edited to show him at his worst. It is ironic that Mr Reagan should have become disenfranchised with the networks, to whom, in his normal role as a star television performer, he owes so much — possibly even his Presidency. Two weeks ago, he publicly complained that "lowest" news coverage had delayed the economic recovery and asked: "Is it news that some fellow out in South Succotash someplace who had just been laid off should be interviewed nationwide?" Succotash, an American Indian dish made of maize and beans, was inevitably sought out by the Press. They succeeded in unearthing a Succotash Point in Rhode Island, where they found three people unemployed, and had a field day. Mr Reagan's image problem is compounded by his failure to shake off the impression that he is unconcerned about the poor, the blacks, the underprivileged and even the ordinary American working man. While he tries hard to correct this, it never quite seems to come off. His anecdotes are fast becoming famous. Last month he was reported to have told a story about a young man who used food stamps to buy an orange and with the change bought a bottle of vodka. There seems to be absolutely no evidence of such an event. His deafness is also reported to be getting worse, and he is too proud to ask people to repeat themselves if he does not hear them the first time. In every speech he now stresses the theme of social "fairness," to correct his uncaring image. His aides say they are trying to steer him towards "people events," such as his sudden appearance last month at flood-stricken Fort Wayne, Indiana, where he stood briefly in a line of rescue workers passing sandwiches. Not everyone is impressed by this. But it would be wrong to conclude that he has totally lost his charisma or that all his supporters have deserted him. In the great conservative heartlands of America there are still plenty of people who are prepared to give him more time. But equally, as another recent poll showed, the majority of Americans do not want him around for another four years after his first term expires at the beginning of 1985.

Lombard Lead: more facts are needed

By Sue Cameron

THE ISSUE of whether or not Britain should switch to unleaded petrol is a complex one. Some say the medical evidence is strong enough to justify a ban on lead additives in fuel. Others have serious doubts about the worth of the research that has been done so far. They rightly point out that there are many other sources of lead besides petrol fumes. The costs and political implications of going to lead-free petrol in the UK mean that almost everyone concerned is becoming an increasingly noisy and public business. This makes it all the more remarkable that the facts of the case — measure though they may be in some instances — should be so hard to come by. The UK automotive industry, for example, has evidently made out to the Government a powerful case against unleaded petrol, arguing that the total cost of such a move to car manufacturers could be as high as £350m. It has embroidered its case with the threat that BL might have to be given yet more taxpayers' money to re-design engines so they could run on unleaded petrol. BL itself will not say how much it spent on converting its Jaguar XK engines to take unleaded petrol so they could be exported to the U.S. Does BL not know? If not, why not? Or could it be that the figures might run counter to the industry's general propaganda line? Conversion costs can vary considerably from one type of engine to another and there might be little point in trying to extrapolate from a single example. But BL could draw attention to these caveats itself. Reticence merely leaves the field wide open to the motor manufacturers' opponents in the unleaded petrol lobby. BL is open company with the Department of Health. A request for a list of the research studies published since the Government-sponsored Lawther report two years ago, drew a straight refusal to provide any information. (CLEAR, the Campaign for Lead Free Air, was happy to give full details.) It is understandable that government press offices should shy away from offering comment on controversial issues. But should it not be part of their job to supply any available facts when asked, both in the public interest and in the interests of their political masters? In the 1970s the legal limits on lead in petrol were progressively reduced by 0.05 grams a time — a process that was contemptuously referred to as "salami-slicing." The Government reckons it has taken a bold initiative with its plans to lower the limit from 0.4 grams of lead per litre of petrol to 0.15 — a cut of 62.5 per cent. But instead of praise, it is finding itself faced with mounting hostility from worried parents. The Government gave its reasons for reducing rather than banning lead in petrol during a comparatively brief Commons debate. But if it is to convince the public of its case and assuage what could be unnecessary fears, it should make available all the evidence on which its decision was based, including any relevant information it received from companies such as BL. It should also strengthen some of its departmental press offices — which vary widely in their competence. One of the main ways in which governments can reach a wide audience is via newspapers, radio and television. Opportunities to disseminate factual information — particularly on a subject that so intimately concerns people as children's health — should be seized with both hands. Supporters of CLEAR may or may not be right in demanding a simultaneous government commitment to both a reduction of lead in petrol and a switch to unleaded fuel for new cars. But their appeal has certainly struck a chord — witness the findings of the latest MORI poll when 77 per cent of those questioned were found to favour lead-free fuel, even though this would push up petrol prices. Unless all the interested parties — and most notably the Government — are forthcoming with their facts, CLEAR will win the argument by default. That is not the way for an issue of this importance to be settled.

Letters to the Editor

A radical alternative to the problems of the CAP. From Mr V. Gaskell. Sir — Your editorial "A better way to help farmers" (March 30) comes at a most opportune moment. In the wake of Denmark's unfortunate foot and mouth in Fünen — we in Britain's pig industry await with trepidation those extra pigs converted to bacon which other more protective countries have refused to accept. Those pigs will reduce our prices, so we the British pig industry will be helping to pay for their disaster. So long as the Common Agricultural Policy makes the more fair playing members countries into sacrificial lambs, public opinion will rear against the EEC, and passions in Brussels will vary from high-decibel to deepest gloom. The concept of equalising food production circumstances in countries as diverse as those in the EEC is ridiculous. Any one — with the remotest understanding of agriculture knows that temperature, moisture and light are the essential natural elements in growing things and that man adds fertilizer and tills the ground. Even the EEC cannot make it rain harder in Sicily or grow olives in Ulster. The sooner politicians face up to reality and accept that the concept of equal opportunity in farming throughout the EEC is unfair and involves either the destruction of parts of its existing structure or enormous subsidy, the more likely we are to be able to look forward to a prospect, politically unmitigated Europe fulfilling the EEC's original ideals. If however sectional interests in one state triumph over those in another, disillusionment and disunity must follow — in our case the pig sector will decline. Negative attitudes will replace positive ones and we will cease to have the incentive to go out into the market place to sell our bacon and expand our industry. Vaughan Gaskell, Gaskell Bros, Warrington, Cheshire. From Mr D. Patchett. Sir — Your leader of March 30 was right to highlight once again the problems associated with the common agricultural policy (CAP). It has been argued that past developments in the Community's agricultural policies, and the obvious unwillingness of policy makers to undertake major reforms, are evidence that there is no real alternative to today's basic principles of agricultural policy. But there is, as you point out, a radical alternative, namely direct income support. This should, notwithstanding the problems associated with its establishment, enable a more correct economic balance to be struck between the influence of price on earnings and their impact on production. The variety of demands made on the CAP surely requires a more flexible use of the present instruments and the use of new measures. Therefore it is time that the present dual function of the CAP was ended and a more equitable and less wasteful policy be introduced. D. M. Patchett, University of Oxford, Institute of Agricultural Economics, Dorington House, Little Clarendon Street, Oxford. zero coupon loans or even stocks with a negative coupon. These latter would be called savings loans and would show the volatility normally associated with partly paid stocks (which is what they would be). If such stocks were redeemed by annual drawings they would have yet more appeal for the risk-averse investor. Providing a spread of stocks to suit the temperaments of different investors would be a positive step towards cutting the costs of debt funding and thus reducing the PSBR. Martin Weale, Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge. In a position to comment. From Mr W. Tyler. Sir — The correspondence in your columns (March 25 and 31) concerning Bristol City Football Club appears to me to be entirely appropriate as only at Ashton Gate, home of Bristol City, have I stood on the terraces next to a supporter who has filled in the time before kick-off by studying the Financial Times. William Tyler, 17, Beaufort Crescent, Hazel Grove, Stockport.

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PENDING DIVIDENDS

Dates when some of the more important company dividend statements are expected in the next few weeks are given in the following table.

Table with columns: Date, Announcement last year, Date, Announcement next year. Lists various companies like Akroyd and Smith, Assoc. Paper, etc.

UK COMPANY NEWS

£3.3m increase by Laird Group

SECOND-HALF taxable profits of the Laird Group rose from £3.14m last time to £3.19m... Dividends absorbed £2.83m (£2.1m) leaving a retained surplus of £3.27m, compared with £4.02m.

Sunbeam Wolsey up sharply

PRE-TAX profits of Cork-based hosiery and knitwear maker, Sunbeam Wolsey, more than doubled from £193,959 to £676,130 for 1981...

Cass Electronics ready for USM introduction

BY TERRY GARRETT

PRICING now issues is not the easiest of tasks at the best of times: get it too wrong and there are questions in the House...

cent of Reeves and Sons, manufacturer and distributor of artists materials. That company too was sold (five years later) to Reckitt and Co.

Electricians was one of the first companies to launch direct speech intercommunication with the rest of the company...

£1.2m advance in sales to £16m. Wilfred Cass is confident that he can produce decent returns where W. R. Smith failed.

From the retail base Arts is expanding into mail order, selling embroidery and stitching kits through the Sunday magazines.

Stanley Miller recovers some of lost ground

ALTHOUGH INCREASING its second half pre-tax profits from £54,239 to £115,760, Stanley Miller Holdings, the Newcastle-upon-Tyne building contractor and civil engineer, incurred a loss of £72,556 in 1981.

More Company News Page 23

Trading conditions and an elimination of absenteeism and production problems, a higher second half figure was hoped for. Second half results, however, are traditionally better than the first.

FT Share Information

The following securities have been added to the Share Information Service: Greenwich Cable Communications (Secon: Electricis).

Tharsis up to £0.38m - pays more Cost cutting measures benefit W. A. Tyzack

PRE-TAX PROFITS of Tharsis increased from £299,244 to £382,542 in 1981 after being lower in 1980 (£287,000).

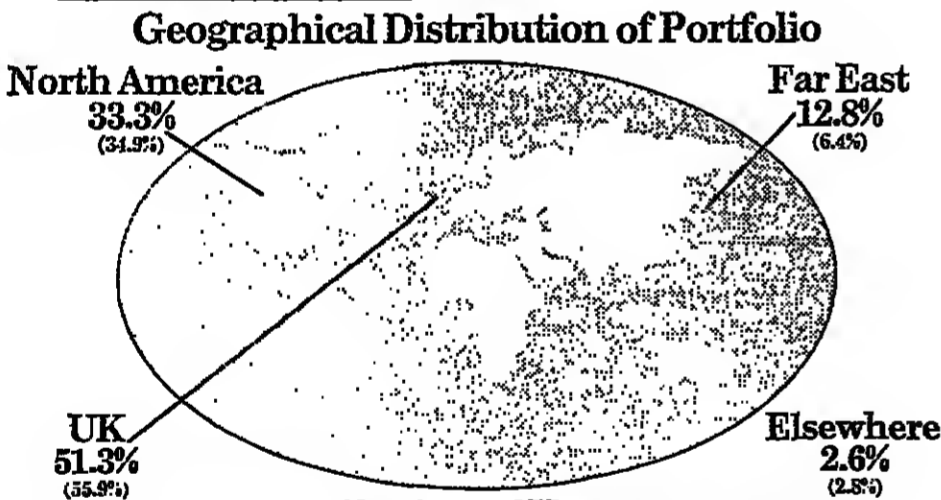
COST cutting measures undertaken by W. A. Tyzack which started to benefit the precision engineering component group towards the end of 1980-81, have helped to reduce losses in the first half of the current year.

more economies in hand. He is encouraged by the current order trend "which is slowly but steadily improving from the exceptionally low levels of last year."

The Scottish Eastern Investment Trust public limited company.

Annual Report Year Ended 31st January 1982

Table with columns: 1982, 1981. Rows: Earnings per Ordinary Share, Total Dividends per Ordinary Share, Net Asset Value per Ordinary Share.



Review of Year

- Net Asset Value per Share up 15.0%. All Share Index up 14.5%. Significant exposure to overseas currencies has protected asset value against weakness of sterling.

Policy and Prospects

- Long term growth of capital to be primary objective. An international portfolio invested in the stronger and emerging economies of the world.

To obtain a copy of the Report and Accounts, return this form to the Managers and Secretaries, MARTIN CURRIE & CO, 29 Charlotte Square, Edinburgh EH2 4HA (Telephone 031-225 3811).

RECENT ISSUES EQUITIES

Table with columns: Issue Price, Amount Paid up, Latest Return, High, Low, Stock, Dividend, Yield, etc.

FIXED INTEREST STOCKS

Table with columns: Issue Price, Amount Paid up, Latest Return, High, Low, Stock, Dividend, Yield, etc.

"RIGHTS" OFFERS

Table with columns: Issue Price, Amount Paid up, Latest Return, High, Low, Stock, Dividend, Yield, etc.

Sharna Ware improvement

DOUBLED PROFITS in the second half has enabled Sharna Ware to produce a pre-tax figure of £542,564 for the year ended 1981, compared with £283,039 in 1980.

Setback at Gibbs and Dandy

A slight downturn from £30,378 to £27,810 in the second half is reported by Gibbs and Dandy, the Luton-based builders' merchant, ironmonger, tool merchant and electrical wholesaler.

MALAYSIA U.S. \$250,000,000 Floating Rate Notes due 1992. In accordance with the provisions of the Notes, notice is hereby given that the rate of interest for the period from 6th April, 1982 to 6th October, 1982 is fixed at 15 5/8% per annum.

THE KYOWA BANK, LIMITED Negotiable Floating Rates U.S. Dollar Certificates of Deposit Maturity Date 6th October, 1983

N.A.V. at 31.3.82 \$43.32 (DFs 115.97) VIKING RESOURCES INTERNATIONAL N.V.

MANNING DIAMOND INVESTMENTS LIMITED Bid: 400 Offer: 440 Tel: 0624 822091 Telex: 628032 MANNING G

THE TRING HALL USM INDEX 121.6 (+0.3) close of business 2/4/82 BASE DATE 10/11/80 100 Tel: 01-638 1591

LADBROKE INDEX Close 570-575 (+4)

BANCA SERFIN, S.A. U.S. \$25,000,000 Floating Rate Capital Notes Due 1986. In accordance with the provisions of the Notes, notice is hereby given that for the six month interest period from 5th April, 1982 to 5th October, 1982, the Notes will carry an interest rate of 15 1/8% per annum and the Coupon Amount per U.S. \$1,000 will be U.S. \$79.74.

M. J. H. Nightingale & Co. Limited 27/28 Lovat Lane London EC3R 8EB Telephone 01-621 1212

FINANCE FOR INDUSTRY TERM DEPOSITS. Deposits of £1,000-£50,000 accepted for fixed terms of 3-10 years. Interest paid gross, half-yearly. Rates for deposits received not later than 16.4.82

Public Works Loan Board rates Effective March 27. Quota loans repaid, Non-quota loans A* repaid

LOCAL AUTHORITY BOND TABLE Authority (telephone number in parentheses) Annual Interest gross pay- Minimum of interest able sum bond Life % £ Year

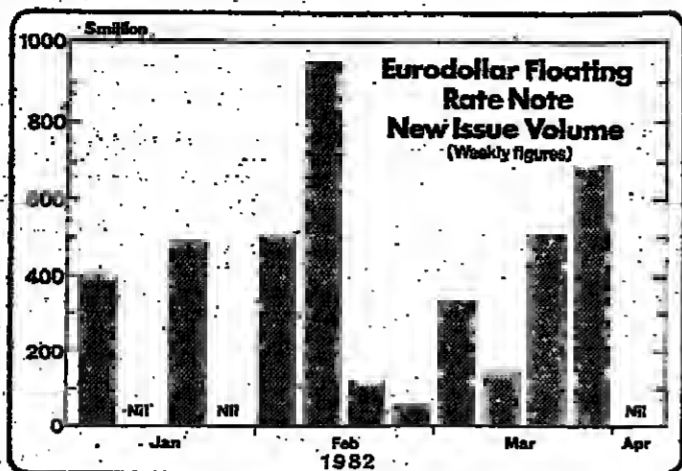
Companies and Markets

INTERNATIONAL CAPITAL MARKETS

INTERNATIONAL BONDS

Offered only business in Mexican floaters

AT FIRST there were only rumours: In hushed tones dealers in the Eurodollar floating rate note market passed the word that they were pulling out of trading Mexican paper. But now the rumours have been confirmed as reality.



Although the cessation of such trading is not of major consequence to the entire Euro-market, it can do little good for the gradually deteriorating name of Mexican borrowers in both the bond and credit markets.

The main reason for the recent halt by several market-makers is the growing illiquidity of Mexican floating rate notes. There are several factors behind this: The economic image of Mexico has become tarnished over the past few months in view of the fall in its oil price, the devaluation of its currency and the country's growing budget requirement.

1982 paper, one of the few issues still being traded. The notes carry a 3/4 point spread above Libor, and are trading currently in the 97 1/2 to 97 3/4 range.

When prices fall the trading liquidity may dry up. When the market expects a spread of around 1 per cent the prices are likely to stay low and the liquidity therefore nearly disappears.

A major FRN market-maker said on Friday: "There seems to be a complete lack of customer interest in Mexican paper." Several competitors agreed and said the short-term outlook was not expected to change.

In the fixed-rate Eurobond market the first day of April brought a surge in investor demand. After a sluggish start last week the Eurodollar sector rebounded on Thursday and Friday and closed the week 1/2 points to 1/2 points higher. The Euro D-Mark sector continues to be strong; prices were up 1/2 point on the week. The Swiss franc sector saw prices up 1/2 points on the week.

Alan Friedman

CREDITS

Belgium tests the waters

THE KINGDOM of Belgium is borrowing \$100m through a five-year sterling syndicated credit managed by Hill Samuel and Baring Brothers.

The other banks involved are Barclays Bank, Royal Bank of Canada, Dalwa, Saitama Bank, Banque Belge Limited, and Banque Bruxelles Lambert.

It is well known in the Euro-market that Belgium has been contemplating a jumbo credit and this comparatively small deal may be a way of testing the waters.

Elsewhere in Europe the action shifts tomorrow to Dresdner Bank's Frankfurt offices in Juergen-Ponto-Platz where more than 100 bankers and Polish officials will converge at 10 am to sign Poland's 1981 debt rescheduling agreement.

The Euro-market was awash with rumours on Friday of a large loan from the Western European central banks to Hungary. On Friday evening Mr Janos Fekete, first vice-president of the Hungarian National Bank, is said to have stated he had "not heard these reports."

Romania's group of nine Western bank advisors, meanwhile, will be meeting in New York in a fortnight to discuss ways of organising that country's debt rescheduling. In Lisbon, the much-awaited mandate for Portugal's \$300m eight-year credit was awarded to a group of ten banks. Citicorp is agent and Lloyds Bank International is running the books.

The two-year credit, bearing a 3 per cent acceptance commission, was placed by Lloyds Bank International. Pemax's \$2bn jumbo was signed late last week, but the Mexican oil company also attempted a \$200m club deal through Banamex.

This was withdrawn by Friday, only a few days after reports of its first emergence. The \$200m two-year Euro-credit was viewed by some bankers as a curious "second bite of the cherry". It was in the pipeline before the ink was even dry on the \$2bn deal, and White Knight's \$1.2bn credit was still in the market.

Alan Friedman

ASIAN CURRENCY UNITS

Singapore undeterred by Hong Kong's relaxation

SINGAPORE'S offshore financial markets are shrugging off suggestions that business will suffer from Hong Kong's recent abolition of its 15 per cent withholding tax on interest payments. Official statistics over the next six months or so will show how much business may be leaving Singapore, as maturities fall due.

Neither the foreign banks nor the Singapore authorities are expecting this to be a flood, although older banks point out that it will be in large measure the Hong Kong withholding tax that prompted the development of foreign bank's Asian Currency Units (ACUs) from 1968 onwards.

It seems likely now that there will be some blurring of the traditional distinction between the two centres—where Hong Kong has tended to set up a loan syndication, Singapore has been used as a funding centre, a shorter-term money market, and a centre for the issue, mainly though not exclusively by Asian borrowers, of certificates of deposit, bonds and notes.

As Singapore is quick to acknowledge, much of this business is merely "booked" to ACUs by their parent banks elsewhere, so that the market's fortunes are impossible to disentangle from those of the Euro-market. Thus spreads on loans to many Asian borrowers have been uncomfortably narrow for many bankers recently, while for the future, risk is being far more carefully assessed and some countries will find themselves being asked to pay more.

Yet bankers are confident that the rapidly expanding economies of the region, notably Malaysia, Indonesia, Thailand, and the Philippines, will all continue to have a hearty appetite for funds. As a seasoned European banker put it, "the problem for us will be to pick the good projects."

The Asia bond market, meanwhile, remains closely bound to U.S. dollar interest rate movements elsewhere. Dealers say there is plenty of pent-up demand for funds on the part of the Asian borrowers who have been the heaviest users of the market—mainly because their greater recognition in Singapore means they can secure better terms than in Europe. The market has been less inclined to innovate than London, but a recent U.S.\$18m note issue with warrants attached by DBS-Diawa for Seiyu, the Japanese stores group, went quickly and is expected to set a trend for new borrowing instruments.

Adrian Dicks

CURRENT INTERNATIONAL BOND ISSUES

Table with columns: Borrowers, Amount m., Maturity, Av. life years, Coupon %, Price, Lead manager, Offer yield %. Includes sections for U.S. DOLLARS, SWISS FRANCS, STERLING, and KUWAITI DINARS.

Advertisement for Wells Fargo International Financing Corporation N.V. featuring a logo of a horse-drawn carriage and text: 'U.S. \$75,000,000', '15% Guaranteed Notes Due 1987', 'Wells Fargo & Company', 'MORGAN STANLEY INTERNATIONAL', 'ARAB BANKING CORPORATION (ABC)', 'BANQUE NATIONALE DE PARIS', 'COMMERZBANK AKTIENGESELLSCHAFT', 'CREDIT SUISSE FIRST BOSTON', 'DEUTSCHE BANK AKTIENGESELLSCHAFT', 'MORGAN GRENFELL & CO.', 'MORGAN GUARANTY LTD', 'SALOMON BROTHERS INTERNATIONAL', 'SOCIETE GENERALE DE BANQUE S.A.', 'SWISS BANK CORPORATION INTERNATIONAL', 'UNION BANK OF SWITZERLAND (SECURITIES)', 'WELLS FARGO'. Date: March 25, 1982.

Advertisement for American Telephone and Telegraph Overseas Finance N.V. featuring text: 'U.S. \$400,000,000', 'American Telephone and Telegraph Overseas Finance N.V.', '14 1/2% Guaranteed Debentures Due 1989', 'Unconditionally guaranteed as to payment of principal, premium, if any, and interest by American Telephone and Telegraph Company', 'Credit Suisse First Boston Limited', 'Banque Bruxelles Lambert S.A.', 'Banque de Paris et des Pays-Bas', 'Goldman Sachs International Corp.', 'Merrill Lynch International & Co.', 'Morgan Stanley International', 'J. Henry Schroder Wagg & Co. Limited', 'Swiss Bank Corporation International Limited', 'Union Bank of Switzerland (Securities) Limited'. Lists various international banks as agents.

INTERNATIONAL CAPITAL MARKETS AND COMPANIES

U.S. BONDS

Market nerves still fraught

"A CONVERTIBLE subordinated debt is a highly regarded junior college in Norway. It was incorrectly identified as a corporate investment tool in an earlier edition." Amid all the doom and gloom, Wall Street found something to chuckle about this week: a spoof of its daily required reading called "OF the Wall Street Journal" which reported that takeover-happy Mobil had accidentally bid for a company it already owned, along with the tragic tale of a robot in a Japanese auto plant which committed hara kiri because its poor memory circuits made it forget the company song.

for no growth in M1 during the balance of the January-March quarter to offset the huge bulge that occurred in January. Broadly speaking, this has happened, though M1 remains slightly above target. Given the weakness of the economy, the Fed is expected to try and avoid pushing up interest rates in the next few weeks, even if this produces some sweaty moments as the money supply shoots up. This was the strategy it adopted during the January bulge when the crisis eventually blew over. With unemployment now 9 per cent, matching its highest since the war, the best that can be said about the economy is that the recession may have bottomed out, though this has yet to have much effect on interest rates.

New issues boost for fund totals

By Alan Friedman

NEW FUNDS raised on the international capital markets rose by more than 50 per cent in the first quarter of this year to \$39.5bn, from \$26bn in the first quarter of 1981, according to the latest figures compiled by the Organisation for Economic Co-operation and Development (OECD). The rise was due largely to the growth of bond issues in the first quarter. New issues for the first three months of 1982 stood at \$19.1bn against \$8.9bn last year.

Barlow Rand move to take control of Tiger Oats

BY THOMAS SPARKES IN JOHANNESBURG

IN A complex series of deals which will tie up control of the last remaining independent major food company in South Africa, control of Tiger Oats is to be taken by the industrial and mining conglomerate, Barlow Rand. At the centre of the arrangements is the formation of a new company to be called Tiger-Sugar which will control the entire capital of C. G. Smith Sugar and more than 50 per cent of the issued capital of the food group, Tiger Oats.

11.5m ordinary shares in issue as well as 1.8m automatically convertible preference shares. All of these are included in the arrangements. C. G. Smith Sugar is a wholly-owned subsidiary of C. G. Smith which, in turn, is at present a 54 per cent owned subsidiary of Barlow Rand. In the secondary deal between Barlow Rand and the Old Mutual, the assurance company is to receive an additional 11.4m new Barlow Rand shares in exchange for a portfolio of shares which comprises 185,000 C. G. Smith, 1,35m Pretoria Portland Cement, 365,000 Transvaal Consolidated Land, 4.5m Nampak, 0.53m Reunert and Lenz and 7.11m Imperial Cold Storage (ICS). With the exception of the latter, all these companies are members of the Barlow Rand group.

by Barlow Rand. Because of this, Barlow is to offer to exchange up to 50 per cent of each minority shareholder's interest in ICS. Barlow Rand will then exchange the Tiger-Sugar, Nampak and ICS shares accruing to it for an issue of new C. G. Smith shares. The end result will be that Barlow Rand will own more than 54 per cent of C. G. Smith which in its turn will own more than 50 per cent of Tiger-Sugar, 75 per cent of Nampak, a direct stake of issue which is worth R500m, and a further 20 per cent of ICS indirectly through Tiger-Sugar and Tiger Oats. At present, Barlow Rand has 126.2m ordinary shares in issue which have a total market capitalisation of R1,230m. In the year ended September 30, 1981, the group's consolidated turnover was R4,727m and its pre-tax profit R653m. C. G. Smith has 33.7m ordinary shares in issue worth R500m on last Friday's closing price. In the year ended September 30, 1981, its consolidated turnover was R1,230m and its pre-tax profit R196m.

Starting decision on Reksten still leaves option open

BY OUR OSLO CORRESPONDENT

THE REKSTEN AFFAIR is not out of Norwegian politics, even if the Storting (Parliament) early on Friday morning endorsed an agreement between the Norwegian states and Hambros Bank, London, which is to reduce the losses Norway is suffering in connection with the matter. An investigating committee appointed last year by the Labour Government then in power in Norway is expected to present a report on the Reksten Affair later in the year, and it is believed that this report will be thoroughly debated in the Storting. According to the endorsed agreement, the Norwegian state has relinquished legal claims against Hambros in connection with the affair based on information obtained at present, but will be taken legal steps against the bank on the basis of eventual further information. Such information could be revealed by the investigating committee but legal experts in Norway have stressed that an eventual court case against Hambros should last for several years.

The agreement involves the transfer by Hambros to Norway of assets amounting to about \$40m. The Conservative Government wanted to sign this agreement because it considered it the best possibility to reduce Norwegian losses. Political parties to both the left and right of the Government, however, went against the agreement because they thought it would damage the Norwegian state's reputation in the eyes of foreign banks, financial institutions, and companies in general. After a 12-hour debate—the fiercest in Norwegian politics for many years—the agreement was endorsed with a majority of one. During the debate Mr Arve Skjauge, the Minister of Trade and Shipping was in particular subjected to bitter criticism, claiming that he had not kept the Storting fully informed about recent developments in the Reksten affair. The Socialist Left party proposed a vote of no confidence but was not backed by other political parties.

European chief for General Foods Corp.



Mr John M. Keenan has been appointed European chief of General Foods Corp. Mr Keenan, group vice-president, is president of General Foods Europe, Brussels. He succeeds Mr Evelyn R. Shames, who was recently elected executive vice-

president of General Foods Corporation and president of General Foods international operations at its headquarters in White Plains, New York. Mr Helm Rahnau, Secretary of State for the West German Federal Ministry of Transport, has joined the executive board of LUFTHANSA as deputy chairman. He will succeed Dr Herbert Culmann as chairman on July 1. On the same date Dipl.-Ing. Reinhardt Abraham will become deputy chairman. Mr Ernest Hauser, chairman and managing director of Silberwarenfabrik Jexler and Cie, Dr David Linden, chairman and managing director of Danzas AG, and States Councillor Franz Minheim, chairman of Schindler Holding, have been appointed to the board of SWISS BANK CORPORATION, Basle. Mr Jean Bonnard has retired from the board.

INTERNATIONAL APPOINTMENTS executive officer. He had formerly been president and chief operating officer. He succeeds Mr William D. Atcherry who remains as chairman. ● ROR SEVEN SA, Paris, wholly-owned French subsidiary of Rubery Owen-Rockwell, UK based trailer axle and suspension manufacturer, has appointed Mr Gerard Leroux as operations director. He comes from Erucan, France-Boulogne. ● Mr Jean-Marie Poitras has been elected to the board of ALCAN ALUMINIUM, Montreal. He is chairman and chief executive officer of La Laurentie-Motuelle d'Assurance de Quebec City. ● BANKERS TRUST COMPANY has appointed to London Mr John C. Mowinkel, vice-president, who is local functional manager of the bank's world corporate department in Italy. His successor in Milan is Mr Robert M. Stebbins, vice-president who was with the bank's subsidiary in Germany. ● PARGESA HOLDINGS SA, Geneva, has elected Mr Leon Lambert, member of the Group Bruxelles Lambert SA and Mr Joseph Camedezin, a former deputy director of the Banque de Paris et des Pays-Bas (Suisse) SA to its board. Mr Lambert's election came as Pargesa Holdings, which acquired a majority stake in Paribas last October before its parent company Groupe Paribas was nationalised in France, prepared to take an SWFR 50m (£23.2m) share in Groupe Bruxelles Lambert. Pargesa Holding is part of a consortium with Cobeqa SA, Agfa-France-Boulogne and SA which will take over 33.36 per cent of Groupe Bruxelles Lambert next month. ● Mr James Z. Fugash has been elected vice-president and special assistant to the chairman of OCCIDENTAL PETROLEUM CORPORATION. ● CANADIAN NATIONAL RAILWAY has appointed Mr J. Maurice LeClair as president and chief executive officer from April 1. He will also sit on the company's 12-member board. He replaces Mr Robert Bandeen, who has resigned.

cent of Groupe Bruxelles Lambert next month. ● Mr James Z. Fugash has been elected vice-president and special assistant to the chairman of OCCIDENTAL PETROLEUM CORPORATION. ● CANADIAN NATIONAL RAILWAY has appointed Mr J. Maurice LeClair as president and chief executive officer from April 1. He will also sit on the company's 12-member board. He replaces Mr Robert Bandeen, who has resigned.

Following the Zambian Government's decision to merge Nchanga Consolidated Copper Mines (NCCM) and Roan Consolidated Mines Limited (RCM), Mr Francis Kaunda, managing director of NCCM, has been appointed chairman and chief executive of the newly formed SOLIDATED COPPER MINES (ZCCM). Mr L. C. Mntakasha, managing director of the Metal Marketing Corporation of Zambia, Professor M. M. Siamwiza, professor of chemistry at the University of Zambia, and Mr R. K. Kuwanda, governor of the Bank of Zambia, have been appointed non-executive directors of ZCCM. ● The FEDERAL RESERVE BANK OF CLEVELAND has appointed Ms Evelyn R. Shames as its president from May 1. She is the first woman president of any of the 12 Federal Reserve Banks. She succeeds Mr Willis J. Winn, who retires. Ms Horn is treasurer of Bell Telephone Company of Pennsylvania. ● PEROWALLSEND, Sydney, has appointed Mr Allan Coggan as director to fill a casual vacancy on the board. He is chairman of Nabalco Pty.

Table with 2 columns: U.S. INTEREST RATES (%) and Week to Week. Rows include Fed. funds wkly. av., 3-month Treas. bills, 3-month CD, 30-year Treas. bonds, AA Aaa, AA Aaa, AA Industrial, Source: Salomon Brothers (estimates), in \$bns. to March 24. M1 fell \$3bn to \$445.5bn.

Advertisement for Sociétés de Développement Régional. Features the 'sdr' logo and lists various regional development societies across France. Includes text: 'All these securities having been sold, this announcement appears as a matter of record only.' and '£30,000,000 15 1/2 per cent. Guaranteed Bonds 1992 unconditionally guaranteed by The Republic of France. S. G. Warburg & Co. Ltd.'

FT INTERNATIONAL BOND SERVICE table. Columns include U.S. DOLLAR STRAIGHTS, YEN STRAIGHTS, OTHER STRAIGHTS, EUROBOOND TURNOVER, and CONVERTIBLE BONDS. Each section contains columns for Issued, Bid, Offer, Day, and Yield, along with percentage changes.

مركز الأمل

UK COMPANY NEWS

Ulster TV ahead £66,000

THE subscription to the new Channel 4 and a substantially increased rental to the Independent Broadcasting Authority will cost Ulster Television something in the region of £100,000 in the second half of the current year ending July 31 1982, says Mr J. L. MacQuitty, the chairman.

Pre-tax television operating profits increased from £225,000 to £313,000, but Mr MacQuitty points out that while this improvement is encouraging, it is still below the corresponding figures of £245,000 and £343,000 for 1978 and 1979 respectively.

Mr Peter Dodd, the managing director, says the year will be as competitive as 1981, but he is confident of giving member pharmacists an even better service with more benefits.

Thos. Locker acquisition

Thomas Locker (Holdings) has purchased a 50 per cent interest in Associated Perforators and Weavers from Butterfield Harvey for 258,000 cash.

Spencer Gears sells lossmaker

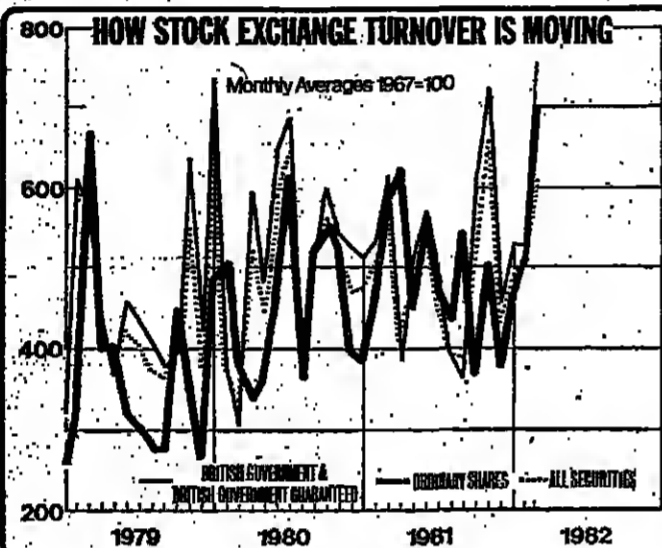
Spencer Gears (Holdings) has sold its loss making subsidiary Spencer Gears Ltd to Hi-Ton Int'l for 500,000 cash, payable by instalments.

UniChem's profits rise

Turnover of UniChem, the UK's largest pharmaceutical wholesaler, increased by 29 per cent from £168.1m to £216.8m for 1981, while profits were up 18 per cent to £18m.

Stock Exchange turnover soars to record £22.7bn after Budget

STRONG HOPES of lower interest rates, realised in the wake of the Chancellor's Budget on March 9, encouraged heavy institutional and public buying of gilt-edged securities last month and pushed turnover in the sector to record highs.



Financial Times Turnover index for ordinary shares rose from 506.7 in February to 608.5, its highest level since April of last year.

LONDON AND LIVERPOOL TRUST

London and Liverpool Trust has completed the acquisitions of LOS Office Supplies and T and T (Metal Products).

SECURITY CENTRES

Security Centres Holdings have acquired, for a cash consideration, the business and assets of Marker Alarms of Glasgow.

LINFOOD DISPOSAL

Linfood Holdings has completed the sale of John North to Maux and Overseas (Inv). Consideration satisfied wholly in cash.

NO PROBES

The acquisition by Norsk Hydro AS of the agricultural fertiliser division of Fisons, and the proposed merger between Enoxy Inc and International Synthetic Rubber are not being referred to the Monopolies Commission.

SHARE STAKES

Lendu Rubber Estates - Johore State Development Corporation holds 287,500 ordinary (12.778 per cent).

BOARD MEETINGS

The following companies have notified dates of board meetings to the Stock Exchange. Such meetings are usually held for the purpose of considering dividends. Official indications are not available as to whether dividends are interim or final and the subdivisions shown below are based solely on last year's timetable.

Table with columns for company names and dates. Includes: Interim - Bryant, Glaxo, Highland Distilleries, Final - British Printing and Communication, Erith, Luis Oordon, Huntley and Palmer, S. Jerome, Macfarlane (Glasgow), Rugby Portland Cement, George Willis.

IN BRIEF

CITY AND FOREIGN INVESTMENT - Results for 1981 reported February 15. Investments £3.69m (£2.05m). Net current assets £26,306 (£27,725).

NORTH BRITISH CANADIAN INVESTMENT - Final dividend for year to February 28 1982, 3.35p (3.05p) for a total of 5.1p (4.90p). Share price per 250 share 5.25p (5.42p) net asset value per share 1.91p (2.09p). Gross revenue £603,485 (£585,121).

SPAIN

Table with columns for High, Low, and Price. Lists various Spanish companies and their stock prices as of April 2, 1982.

NATOMAS \$50,000,000 Natomas Overseas Finance N.V. (Incorporated under the laws of the Netherlands Antilles) 15% Notes Due April 22, 1985 With Warrants to Purchase \$100,000,000 15 1/2% Debentures Due April 22, 1989 The Notes and Debentures will be Unconditionally Guaranteed by Natomas Company (Incorporated under the laws of California, U.S.A.)

Citicorp Overseas Finance Corporation N.V. (Incorporated with limited liability in the Netherlands Antilles) U.S. \$100,000,000 Guaranteed Retractable Notes Due 1992 Unconditionally Guaranteed as to Payment of Principal and Interest by CITICORP (Incorporated in Delaware) Offering Price 100% and accrued interest, if any, from April 15, 1982

The Laird Group PUBLIC LIMITED COMPANY Results 1981 Year to 27 December 1981 £'000 Year to 26 December 1980 £'000 Turnover 272,200 194,037 Profit before Tax 16,846 13,570 Tax (3,964) (3,750) Profit after Tax 12,882 9,820

Bank of India announce that on and after 5th April, 1982 the following rates will apply: Base Rate... 13 1/2% per Annum (Decreased from 14%) Deposit rate (basic) 10 1/2% per Annum (Decreased from 11 1/2%)

CONTRACTS

George Wimpey secures £39.5m work

GEORGE WIMPEY AND CO has won orders totalling £39.5m for work in the UK.

At Bolton, the metropolitan borough has approved Wimpey Property Holdings as prospective developer for a retail scheme in the city centre on a site of 3.36 acres adjoining the market.

The £20m project will involve retention and refurbishment of the listed market building and provision of shopping facilities, including two stores, integrated at two trading levels with the market.

New retail space amounts to around 130,000 sq ft and as well as the stores some 30 additional retail units will be provided. Parking for over 500 cars is included as part of the scheme. Work is due to start in 1983 and the scheme should take around 2½ years to complete.

Shell Property Company has awarded a contract valued at over £12.5m to the Aberdeen office of Wimpey Construction UK for the construction of Phase V of Shell UK Exploration and Production office development at Tullos Hill, Aberdeen.

The project comprises the erection of a six-storey office block, a two-storey central services block and underground services ducting to link the central services block with the new and existing office blocks. Two link corridors will also be constructed between the new and existing office block. The office block comprises a six-storey development with two main wings and a central services core totalling 19,991 square metres. The central core houses lifts and toilet facilities together with a vertical plant room which services buildings at each floor level.

Construction is generally precast concrete columns with insitu

concrete coffered upper floor slabs and beams. The stairs are both precast and insitu concrete construction external facade of the building is grc cladding panels with double glazed aluminium windows.

The central services block, 1,278 square metres, comprises a two-storey service block with capacity on the ground floor for all storage facilities and electrical services from the main switchboard standby generators and on the first floor a boiler plant room, water chilling plant room and office accommodation.

Work has started for completion in the spring of 1984. An office building of basement, ground floor and five upper floors is to be built for Wingate Investments in Brahan Street, El by the London office of Wimpey Construction UK under a £7m contract. Office accommodation and storage space and all amenities in the building will have a gross area of 3,470 square metres. Work has started for completion at the end of July 1983.

CROSSLEY ENGINES, Manchester, part of NEI-APC, is to supply a 2MW Allen exhaust heat recovery steam turbine driven alternator set to the North of Scotland Hydro-Electric Board for Lerwick "B" power station in the Shetlands. The main engines for the power station, also being supplied by Crossley Engines under an earlier order from the board, are 12-cylinder Crossley-Pielstick type PC3 heavy-fuel-burning units, each of which will drive 3.2MW alternators. The value of the two contracts is just under £4m.

ORDERS FROM NIGERIA with a total value in excess of £3m have been confirmed with the ALVAN

BLANCH DEVELOPMENT COMPANY. The equipment to be supplied forms part of the first half of the Nigerian Federal Government special rise programme, for rural communities to make them self-sufficient in the production of parboiled rice. The whole chain of operation for processing the rice, including harvesting, threshing, cleaning, hulling, polishing, par-boiling and drying has been specially designed. The capacity of each plant has been calculated to deal with the produce from around 100 hectares allocated to each farmers co-operative.

A £2m CONTRACT to supply coal and coke handling plant to National Smokeless Fuels has gone to BABCOCK MINERALS ENGINEERING, part of Babcock International. It covers design, manufacture and installation of equipment at Monkton Coking Works, Hiebburn, Tyne and Wear. Completion is due in February, 1983.

PYE TVT, the broadcast company of Philips, has won a contract worth £2m for four television outside broadcast vehicles to be used later this year to televise the 1982 Asian Games. Placed by Doordarshan, the Indian State broadcasting organisation, the order is believed to be the first large contract for colour television production equipment to be placed in India and has been won in partnership with the Electronics Trade and Industry Development Corporation (ETIDC), a Government of India enterprise.

THE CONTRACT to supply over 100 viewdata editing computers for ITEC Centres has been

awarded by the Department of Industry to TECHNICAL AGENTS COMPUTING. The contract is worth between half to three-quarters of a million pounds and may even be larger as more machines may be ordered in 1983.

THE PROCESS Industries division of Babcock-Bristol, a member of the Babcock Industrial and Electrical Products group, has won contracts worth around £220,000 for two Micro-B systems for the National Coal Board's Hucknall Colliery in Nottinghamshire and another two for the Renishaw Park Colliery in North Derbyshire. The installation at Renishaw Park consists of two linked Micro-B systems with duplicated operator stations to provide information in the plant manager's office and the main control room. The installation at Hucknall will consist of two Micro-B systems: one for the separate filter press plant and one for the main washing plant.

THOMPSON FRICTION WELDING, Wolverhampton, has won two contracts to supply machines to Machinimatop, the Russian foreign trade organisation, which has placed orders for a model 20 and a model 50 machine, with a total contract value over £280,000. They will be used for the production of cutting tools, joining high-speed steels to constructional steels.

Ministry of Defence contracts worth £70,000 have been won by POWELL DUFFRYN TOOLS, Cardiff, for hand torque tools and accessories, mainly for use by the RAF and Navy, both at home and overseas. These orders are in addition to repair contracts.

APPOINTMENTS

New men on Barclays board

Dr David Atterton, chairman of Fosco Minsep, and Sir James Spooner, a director of John Swire and Sons, have been appointed directors of BARCLAYS BANK.

GLOBE INVESTMENT TRUST has appointed to its court of directors Mr G. J. Elerston at present chairman of Globe Management.

Mr Andrew Longhurst has taken over as managing director of the CHELTENHAM AND GLOUCESTER BUILDING SOCIETY. He succeeds Mr Ralph Stow. There are two new assistant general managers, Mr Aubrey Spencer, who is in charge of the network of 128 branches, and Mr Terry Adams, responsible for development.

Mr Ernest Shenton, a director of DIXONS PHOTOGRAPHIC and chief executive of its photo processing division, is to devote more time to personal interests. He will be succeeded at Photo Trade Processing by Mr Eddie Dayan, marketing director of the group's retail division. Mr Shenton intends to resign his group directorship at the end of the current financial year and will then act as a consultant to the group.

Mr A. R. (Ronnie) Taylor has been appointed a director of LEGAL AND GENERAL GROUP. Mr Taylor was chairman of Willis Faber and a vice-president of the British Insurance Brokers Association.

Mr M. J. Babin Smith has been appointed a director of the London committee of OTTOMAN BANK and has been succeeded by Mr Desmond A. Reid.

Mr Donald Lowe, senior partner of BALFOURS, consulting engineers, has retired. Mr Malcolm White, previously an associate, has joined the part-

nership and will be responsible for operations in Riyadh, Saudi Arabia.

COWARD CHANCE, solicitors, have taken Mr R. N. T. Short and Mr B. C. Stone into partnership from April 7.

GENERAL ACCIDENT FIRE AND LIFE ASSURANCE CORPORATION has appointed Mr C. R. Barker Bennett and Mr K. Noble, both assistant managers (UK) as deputy managers (UK).

Mr David W. Lees has joined the board of R. GREEN PROPERTIES as a non-executive director.

The RAVENSDOWN GROUP has appointed Mr J. P. D. Wraith a director with responsibility for the RDM stainless steel and aluminium stockholding companies which operate in the north, and Mr A. W. Kalsely and Mr D. Hunt as non-executive directors.

Mr Charles A. Evers has been appointed to the newly-created post of product director, CROWN LIFE GROUP.

CITY OF WESTMINSTER ASSURANCE has appointed Mr Derek Rogers as agency manager and Mr Andrew Barnes as assistant agency manager.

The CREDIT INSURANCE ASSOCIATION, part of the Hogg Robinson Group, has appointed Mr C. J. S. Price, chairman; Mr R. E. Granger, deputy chairman; Mr H. C. Davies, managing director; Mr M. March and Mr N. Bowington, directors.

TERRA NOVA INSURANCE COMPANY has established a management advisory board with the following membership: Mr John Haldicott, chairman (managing director); Mr Ralph F. Bailey, director (non-marine under-

writer); Mr Richard J. Edmunds—director (investment manager); and Mr Ian M. Morton—director (marine and aviation underwriter). The members of the management advisory board will continue to fulfil their existing executive responsibilities (in brackets).

The AUSTRALIAN MUTUAL PROVIDENT SOCIETY has appointed Mr D. O. Anderson as the Society's chairman-designate who retires as a director on July 1. He is chairman of the AMP Morgan Grenfell money market group.

Mr K. K. Weir has joined the board of HOGG ROBINSON (OVERSEAS) and has been succeeded as managing director of Hogg Robinson (Benefit Consultants) by Mr R. M. Westwood. Mr Weir will be continuing as deputy chairman of Hogg Robinson (Benefit Consultants).

SPUR SYSTEMS INTERNATIONAL has appointed Mr Frank Holloway marketing director.

THE BRITISH ELECTRIC TRACTION COMPANY has appointed Mr W. Boulton chairman of the group's three plant hire companies—Eddison Plant, Grayston and J. D. White—in succession to Mr G. F. Gray, who has retired. Mr Boulton is deputy chairman of all three plant hire companies and managing director of Grayston.

Mr Perry J. Bolton has joined MCCORQUODALE HOLDINGS INC. as vice president to assist in the business development programme. Mr K. Symonds has been appointed commercial director designate of Spottiswoode Ballantyne.

ALLIED STEEL AND WIRE has made the following appointments: Mr Philip Vann has been

appointed director and general manager of John Smith Wire. Mr Vann relinquishes his duties as operations director for BarFab Reinforcements on the appointment of Mr Roger Evans as operations manager. Mr Vann is replacing Mr Reg Jacobsen, who will be moving to Power Steels, to succeed Mr Harry Farley, director and general manager, who retires at the end of June.

GEORGE H. SCHOLES has made the following changes: Mr R. W. Nash, director and general manager, is responsible for day to day running operations of the company. Mr R. M. Hutchins has been appointed to the board as commercial director. Mr D. L. Adams, director, has become engineering director.

CARTWRIGHT GROUP has made the following appointments: Mr Stephen Clarkson has been appointed technical services director of Cartwright Construction and Mr Jim Barker has become construction director. Mr Brian J. Hague has been appointed a director of Hudson and White. Mr Ron C. Thompson and Mr Peter Wilson have been appointed directors of A. V. Cook and Co., Leeds. Mr Bob Skardon has been appointed director of Bath-based Hayward and Wooster.

BARKER AND DOBSON GROUP has appointed Mr G. Hartley to the board.

Mr Ernest J. Warner and Mr David G. W. Turner are to join the partnership of SPENCER THORNTON AND CO. stockbrokers, on April 17 1982.

Mr Terence Clifford-Hooper has joined the board of MARY QUANT as marketing director. He has resigned as managing director of Knightsbridge Design, a subsidiary of Thomas Jourdan.



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This week's business in both Houses of Parliament

TODAY
Commons: Local Government Finance (No. 2) Bill (remaining stages); Reserve Forces Bill (remaining stages).
Lords: Local Government (Miscellaneous Provisions) Bill, Committee. Antiquities Bill, Third Reading. Transport (London) (Amendment) Bill, Second Reading. Debate on motion calling on the Government to revoke the British Nationality (Amendment) Regulations. Debate on report of the Calouste Gulbenkian Foundation entitled "The Arts in Schools".
Select Committees: Home Affairs: Sub-Committee on Race Relations and Immigration. Subject: Immigration from the Indian sub-continent. Witness: "Rt. Hon. Timothy Raison, Minister of State for Home Affairs (Room 15, 11.00 am).
Treasury and Civil Service. Subject: Budgetary Reform in the United Kingdom. Witness: Rt. Hon. Sir Geoffrey Howe,

Chancellor of the Exchequer (Room 15, 4.30 pm).
Public Accounts: Subject: Matters relating to Northern Ireland. Witnesses: Northern Ireland Department of Environment (Room 16, 4.45 pm).

TOMORROW
Commons: Finance Bill, Second Reading.
Lords: Coal Industry Bill, Third Reading. Social Security and Housing Benefits Bill, Second Reading. Industrial Relations (Northern Ireland) Order 1982. Administration of Justice Bill, committee. Debate on a British component in the A320 Airbus as part of the policy of encouraging European collaboration in growth areas of advanced technology.
Select Committee: Foreign Affairs: Overseas Development sub-committee—Subject: Overseas Development Administration Supply Estimates 1982-83. Witnesses: Overseas Develop-

ment Administration (Room 18, 5.30 pm).

WEDNESDAY
Commons: Debate on the 1st to 17th Reports from the Public Accounts Committee in session 1980-81 and the 1st to 5th Reports in session 1981-82, and relevant Government observations. At 7 pm, opposed private business concerning the British Transport Docks Board.
Lords: Inter-governmental Maritime Consultative Organisation (Immunities and Privileges) Order 1982. Legal Aid Bill, Report. European Communities (Definition of Treaties) International Railway Tariffs Agreement) Order, 1982. British Railways Board (Amendment) Order 1982. Deer (Amendment) (Scotland) Bill, Third Reading. Debate on Poland and the Helsinki Declaration.
Select Committee: Education, Science and Arts. Subject: Public and Private Funding of the Arts. Witnesses: Rt. Hon. Paul Channon, Minister for the Arts; the Hon. Nicholas Ridley, Financial Secretary to the Treasury (Room 6, 10.00 am).
Defence—Subject: Ministry of Defence Organisation and Procurement. Witnesses: The Viscount Trenchard MC, Minister of State for Defence Procurement; Geoffrey Pattle MP, Under-Secretary of State for Defence Procurement (Room 15, 10.45 am).
Transport—Subject: Transport aspects of the 1982 Public Expenditure White Paper. Witnesses: Sir Peter Baldwin, KCB, Permanent Secretary and departmental officials. Employment—Subject: The Commission for Racial Equality's draft Code of Practice. Witnesses: The Advisory Conciliation and Arbitration Service (Room 8, 4.30 pm).

THURSDAY
Commons: House will meet at 9.30 am, take questions until 10.30 am and adjourn at 3.30 pm until Monday April 19.

NEW ISSUE

September 1982

EUROFIMA
(EUROPEAN COMPANY FOR THE FINANCING OF RAILWAY ROLLING STOCK)

Kuwaiti Dinars 6000000
11 per cent. Bonds due 1989

Kuwait Foreign Trading Contracting & Investment Co. (S.A.K.) Blyth Eastman Paine Webber International Limited

Alahli Bank of Kuwait K.S.C.
The Gulf Bank K.S.C.
The Industrial Bank of Kuwait, K.S.C.
Kuwait International Investment Co. s.a.k.
Kuwait Investment Company (S.A.K.)
The National Bank of Kuwait S.A.K.

The Arab Company for Trading Securities (ACTS) S.A.K.
Gulf Financial Centre
Kuwait Financial Centre S.A.K.
Kuwait International Finance Co. S.A.K. (KIFCO)

NEW ISSUE

February, 1982

CHARBONNAGES de FRANCE

Kuwaiti Dinars 7000,000
11 3/4 per cent. Guaranteed Bonds due 1989

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The Republic of France
Issue price 100 per cent

Kuwait Foreign Trading Contracting & Investment Co. (S.A.K.) - Crédit Lyonnais

Alahli Bank of Kuwait K.S.C. Kuwait
Al-Mal Group
Arab Trust Company K.S.C.
The Industrial Bank of Kuwait, K.S.C.
Kuwait International Investment Co. s.a.k.
Kuwait Investment Company (S.A.K.)
The National Bank of Kuwait S.A.K.

The Arab Company for Trading Securities (ACTS) S.A.K.
Kuwait International Finance Co. S.A.K. (KIFCO)
Kuwait Real Estate Bank (K.S.C.)

WORLD STOCK MARKETS

NEW YORK

Table of stock prices for New York market, including columns for High, Low, Stock, and April 2 prices.

1981-2

Table of stock prices for 1981-2 period, including columns for High, Low, Stock, and April 2 prices.

1982

Table of stock prices for 1982 period, including columns for High, Low, Stock, and April 2 prices.

CANADA

Table of stock prices for Canada market, including columns for High, Low, Stock, and April 2 prices.

HOLLAND

Table of stock prices for Holland market, including columns for High, Low, Stock, and April 2 prices.

HONG KONG

Table of stock prices for Hong Kong market, including columns for High, Low, Stock, and April 2 prices.

INDICES

Table of various stock indices including Dow Jones, Standard and Poors, and others.

NEW YORK

Table of stock prices for New York market, including columns for High, Low, Stock, and April 2 prices.

AUSTRIA

Table of stock prices for Austria market, including columns for High, Low, Stock, and April 2 prices.

GERMANY

Table of stock prices for Germany market, including columns for High, Low, Stock, and April 2 prices.

FRANCE

Table of stock prices for France market, including columns for High, Low, Stock, and April 2 prices.

MONTEAL

Table of stock prices for Montreal market, including columns for High, Low, Stock, and April 2 prices.

TORONTO

Table of stock prices for Toronto market, including columns for High, Low, Stock, and April 2 prices.

SWITZERLAND

Table of stock prices for Switzerland market, including columns for High, Low, Stock, and April 2 prices.

NETHERLANDS

Table of stock prices for Netherlands market, including columns for High, Low, Stock, and April 2 prices.

SPAIN

Table of stock prices for Spain market, including columns for High, Low, Stock, and April 2 prices.

FINLAND

Table of stock prices for Finland market, including columns for High, Low, Stock, and April 2 prices.

Notes and footnotes at the bottom of the page, including 'Source: Bank Leumi in Israel SM, Tel Aviv' and 'Notes: Prices on this page are as quoted on the individual exchanges'.

CURRENCIES, MONEY and GOLD

MONEY MARKETS

London rates ease

SHORT TERM interest rates declined in London last week, with seven-day interbank money finishing at 12.13 per cent, compared with 13.13 per cent on the previous Friday.

Conditions are expected to improve this week, although the total shortage of day-to-day credit is likely to exceed £1.5bn.

In New York federal funds rose above 17 per cent on make-up day Wednesday, and stayed firm at about 16 per cent before lunch on Friday.

Money supply was expected to decline last week, but the likelihood of a fall in April kept financial markets nervous.

In Frankfurt key lending rates were unchanged at the Bundesbank council meeting, in line with expectations.

per cent from 18 per cent, and period interest rates eased slightly as the French franc improved within the European Monetary System.

In Amsterdam call money was volatile, falling to 14 per cent on Tuesday, but rising to about 7 per cent the following day.

ahead of payment on a state loan. The low level recorded earlier in the week reflected intervention by the Dutch authorities to support the weaker members of the European Monetary System.

The increase in the level of domestic liquidity in Amsterdam.

WEEKLY CHANGE IN WORLD INTEREST RATES

Table showing weekly change in world interest rates for London, New York, Tokyo, and Amsterdam, including rates for various terms and currencies.

BANK OF ENGLAND TREASURY BILL TENDER

Table showing Bank of England Treasury Bill tender details for April 2 and April 9, including bill amounts and discount rates.

FT LONDON

INTERBANK FIXING

Table showing interbank fixing rates for 3 months U.S. dollars and 6 months U.S. dollars.

LONDON MONEY RATES

Table showing London money rates for various currencies and terms, including overnight, 7 days, and 1 month rates.

EURO-CURRENCY INTEREST RATES

Table showing Euro-currency interest rates for various currencies (Sterling, U.S. Dollar, Canadian Dollar, etc.) and terms.

London-bank 1 bill matures in 14 days, bank 2 bills in 28 days, and bank 3 bills in 83 days.

CURRENCIES AND GOLD

Dollar steady

The dollar recorded little change on balance last week, despite a rise in the interbank money supply figures led to a firmer trend in interest rates at the beginning of the week.

THE DOLLAR SPOT AND FORWARD

Table showing dollar spot and forward rates for various currencies and terms.

THE POUND SPOT AND FORWARD

Table showing pound spot and forward rates for various currencies and terms.

GOLD

Table showing gold prices for various currencies and terms.

FORWARD RATES: AGAINST STERLING

Table showing forward rates against sterling for various currencies and terms.

EMS EUROPEAN CURRENCY UNIT RATES

Table showing EMS European Currency Unit rates for various currencies and terms.

OTHER CURRENCIES

Table showing other currency rates for various currencies and terms.

CURRENCY MOVEMENTS

Table showing currency movements for various currencies and terms.

CURRENCY RATES

Table showing currency rates for various currencies and terms.

EXCHANGE CROSS RATES

Table showing exchange cross rates for various currencies and terms.

NOTES

Prices are in pence unless otherwise indicated. Yields % (shown in italics) unless otherwise stated.

FT UNIT TRUST INFORMATION SERVICE

Large section containing 'AUTHORISED TRUSTS' and a list of various unit trusts with their details, including names, managers, and performance metrics.

INSURANCE BONDS

Table of insurance bonds including companies like Abbey Life Assurance Co. Ltd., Anney Life Assurance Co. Ltd., and various bond types such as Equity & Law, Property, and Life Assurance.

FT UNIT TRUST INFORMATION SERVICE

Table of FT Unit Trust Information Service listing various unit trusts such as Legal & General (Unit Assur) Ltd., Herditch Unit Insurance Group, and Standard Life Assurance Company.

Table of unit trusts including A.P. Securities (C.I.) Ltd., R.I.A. Bond Investments AS, Bank of America International S.A., and Sun Life of Canada (UK) Ltd.

Table of unit trusts including Sun Life of Canada (UK) Ltd., Sun Life of Canada (UK) Ltd., Sun Life of Canada (UK) Ltd., and various international and offshore funds.

OFFSHORE & OVERSEAS FUNDS

Table of offshore and overseas funds including Flamingo Japan Fund S.A., Frankfurt Investment GmbH, and Free World Fund Ltd.

NOTES: Prices are in some cases otherwise indicated. Yield % (shown in italics) shows for all holdings...



FT SHARE INFORMATION SERVICE

FOOD, GROCERIES—Cont.

BRITISH FUNDS

Shorts (Lives up to Five Years)

Table of British Funds with columns for Name, Price, and Yield.

Five to Fifteen Years

Table of British Funds (Five to Fifteen Years) with columns for Name, Price, and Yield.

Over Fifteen Years

Table of British Funds (Over Fifteen Years) with columns for Name, Price, and Yield.

Undated

Table of British Funds (Undated) with columns for Name, Price, and Yield.

Index-Linked & Variable Rate

Table of British Funds (Index-Linked & Variable Rate) with columns for Name, Price, and Yield.

INT. BANK AND O'SEAS GOVT. STERLING ISSUES

Table of International Bank and Overseas Government Sterling Issues with columns for Name, Price, and Yield.

CORPORATION LOANS

Table of Corporation Loans with columns for Name, Price, and Yield.

COMMONWEALTH AND AFRICAN LOANS

Table of Commonwealth and African Loans with columns for Name, Price, and Yield.

LOANS Public Board and Ind.

Table of Public Board and Industrial Loans with columns for Name, Price, and Yield.

South America

Trade and Investment Opportunities for Europe

A Management Report by Margie Lindsay

Europe can ill afford to ignore the trading and investment opportunities offered by South America...

- BRAZIL plans to quadruple its coal output by 1990
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Table of Loans (Continued) with columns for Name, Price, and Yield.

FOREIGN BONDS & RAILS

Table of Foreign Bonds & Rails with columns for Name, Price, and Yield.

AMERICANS

Table of American Stocks with columns for Name, Price, and Yield.

CANADIANS

Table of Canadian Stocks with columns for Name, Price, and Yield.

BANKS AND HIRE PURCHASE

Table of Banks and Hire Purchase with columns for Name, Price, and Yield.

South America

Trade and Investment Opportunities for Europe

A Management Report by Margie Lindsay

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BANKS & H.P.—Cont.

Table of Banks & Hire Purchase (Continued) with columns for Name, Price, and Yield.

BEERS, WINES AND SPIRITS

Table of Beers, Wines and Spirits with columns for Name, Price, and Yield.

BUILDING INDUSTRY, TIMBER AND ROADS

Table of Building Industry, Timber and Roads with columns for Name, Price, and Yield.

HIRE PURCHASE, etc.

Table of Hire Purchase, etc. with columns for Name, Price, and Yield.

ELECTRICALS

Table of Electricals with columns for Name, Price, and Yield.

CHEMICALS, PLASTICS—Cont.

Table of Chemicals, Plastics (Continued) with columns for Name, Price, and Yield.

ENGINEERING—Continued

Table of Engineering (Continued) with columns for Name, Price, and Yield.

DRAPERY AND STORES

Table of Drapery and Stores with columns for Name, Price, and Yield.

CHEMICALS, PLASTICS

Table of Chemicals, Plastics with columns for Name, Price, and Yield.

CHEMICALS, PLASTICS—Cont.

Table of Chemicals, Plastics (Continued) with columns for Name, Price, and Yield.

ENGINEERING—Continued

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CHEMICALS, PLASTICS—Cont.

Table of Chemicals, Plastics (Continued) with columns for Name, Price, and Yield.

ENGINEERING—Continued

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CHEMICALS, PLASTICS

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ENGINEERING—Continued

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DRAPERY AND STORES

Table of Drapery and Stores with columns for Name, Price, and Yield.

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CHEMICALS, PLASTICS—Cont.

Table of Chemicals, Plastics (Continued) with columns for Name, Price, and Yield.

ENGINEERING—Continued

Table of Engineering (Continued) with columns for Name, Price, and Yield.

DRAPERY AND STORES

Table of Drapery and Stores with columns for Name, Price, and Yield.

ELECTRICALS

Table of Electricals with columns for Name, Price, and Yield.

CHEMICALS, PLASTICS—Cont.

Table of Chemicals, Plastics (Continued) with columns for Name, Price, and Yield.

ENGINEERING—Continued

Table of Engineering (Continued) with columns for Name, Price, and Yield.

HOTELS AND CATERERS

Table of Hotels and Caterers with columns for Name, Price, and Yield.

INDUSTRIALS (Misc.)

Table of Industrial Stocks (Miscellaneous) with columns for Name, Price, and Yield.

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MINES-Continued

Table of mine stocks including Central African, Australian, and Tins. Columns include stock name, price, and other financial metrics.

OVERSEAS TRADERS

Table of overseas traders including companies like Anglo-Indonesian, Anglo-Siam, and Anglo-Soviet.

NOTES

Notes section providing commentary and analysis on market conditions and company performance.

MINES

Table of mine stocks categorized by region: Central Rand, Eastern Rand, and Far West Rand.

REGIONAL MARKETS

Table showing regional market data for various countries and currencies.

OPTIONS

Table of 3-month call rates for various financial instruments.

OIL AND GAS-Continued

Table of oil and gas stocks including companies like Anglo-Indonesian, Anglo-Siam, and Anglo-Soviet.

RUBBERS AND SISALS

Table of rubber and sisal stocks including companies like Anglo-Indonesian and Anglo-Siam.

TEAS

Table of tea stocks including companies like Anglo-Indonesian and Anglo-Siam.

MINES

Table of mine stocks categorized by region: Central Rand, Eastern Rand, and Far West Rand.

REGIONAL MARKETS

Table showing regional market data for various countries and currencies.

OPTIONS

Table of 3-month call rates for various financial instruments.

INVESTMENT TRUSTS-Cont.

Table of investment trusts including companies like Anglo-Indonesian, Anglo-Siam, and Anglo-Soviet.

RUBBERS AND SISALS

Table of rubber and sisal stocks including companies like Anglo-Indonesian and Anglo-Siam.

TEAS

Table of tea stocks including companies like Anglo-Indonesian and Anglo-Siam.

MINES

Table of mine stocks categorized by region: Central Rand, Eastern Rand, and Far West Rand.

REGIONAL MARKETS

Table showing regional market data for various countries and currencies.

OPTIONS

Table of 3-month call rates for various financial instruments.

PROPERTY-Continued

Table of property stocks including companies like Anglo-Indonesian, Anglo-Siam, and Anglo-Soviet.

RUBBERS AND SISALS

Table of rubber and sisal stocks including companies like Anglo-Indonesian and Anglo-Siam.

TEAS

Table of tea stocks including companies like Anglo-Indonesian and Anglo-Siam.

MINES

Table of mine stocks categorized by region: Central Rand, Eastern Rand, and Far West Rand.

REGIONAL MARKETS

Table showing regional market data for various countries and currencies.

OPTIONS

Table of 3-month call rates for various financial instruments.

LEISURE-Continued

Table of leisure stocks including companies like Anglo-Indonesian, Anglo-Siam, and Anglo-Soviet.

RUBBERS AND SISALS

Table of rubber and sisal stocks including companies like Anglo-Indonesian and Anglo-Siam.

TEAS

Table of tea stocks including companies like Anglo-Indonesian and Anglo-Siam.

MINES

Table of mine stocks categorized by region: Central Rand, Eastern Rand, and Far West Rand.

REGIONAL MARKETS

Table showing regional market data for various countries and currencies.

OPTIONS

Table of 3-month call rates for various financial instruments.

INDUSTRIALS-Continued

Table of industrial stocks including companies like Anglo-Indonesian, Anglo-Siam, and Anglo-Soviet.

RUBBERS AND SISALS

Table of rubber and sisal stocks including companies like Anglo-Indonesian and Anglo-Siam.

TEAS

Table of tea stocks including companies like Anglo-Indonesian and Anglo-Siam.

MINES

Table of mine stocks categorized by region: Central Rand, Eastern Rand, and Far West Rand.

REGIONAL MARKETS

Table showing regional market data for various countries and currencies.

OPTIONS

Table of 3-month call rates for various financial instruments.

MOTORS, AIRCRAFT TRADES

Table of motor and aircraft trade stocks including companies like Anglo-Indonesian, Anglo-Siam, and Anglo-Soviet.

RUBBERS AND SISALS

Table of rubber and sisal stocks including companies like Anglo-Indonesian and Anglo-Siam.

TEAS

Table of tea stocks including companies like Anglo-Indonesian and Anglo-Siam.

MINES

Table of mine stocks categorized by region: Central Rand, Eastern Rand, and Far West Rand.

REGIONAL MARKETS

Table showing regional market data for various countries and currencies.

OPTIONS

Table of 3-month call rates for various financial instruments.

SHIPPING

Table of shipping stocks including companies like Anglo-Indonesian, Anglo-Siam, and Anglo-Soviet.

RUBBERS AND SISALS

Table of rubber and sisal stocks including companies like Anglo-Indonesian and Anglo-Siam.

TEAS

Table of tea stocks including companies like Anglo-Indonesian and Anglo-Siam.

MINES

Table of mine stocks categorized by region: Central Rand, Eastern Rand, and Far West Rand.

REGIONAL MARKETS

Table showing regional market data for various countries and currencies.

OPTIONS

Table of 3-month call rates for various financial instruments.

SHOES AND LEATHERS

Table of shoe and leather stocks including companies like Anglo-Indonesian, Anglo-Siam, and Anglo-Soviet.

RUBBERS AND SISALS

Table of rubber and sisal stocks including companies like Anglo-Indonesian and Anglo-Siam.

TEAS

Table of tea stocks including companies like Anglo-Indonesian and Anglo-Siam.

MINES

Table of mine stocks categorized by region: Central Rand, Eastern Rand, and Far West Rand.

REGIONAL MARKETS

Table showing regional market data for various countries and currencies.

OPTIONS

Table of 3-month call rates for various financial instruments.

SOUTH AFRICANS

Table of South African stocks including companies like Anglo-Indonesian, Anglo-Siam, and Anglo-Soviet.

RUBBERS AND SISALS

Table of rubber and sisal stocks including companies like Anglo-Indonesian and Anglo-Siam.

TEAS

Table of tea stocks including companies like Anglo-Indonesian and Anglo-Siam.

MINES

Table of mine stocks categorized by region: Central Rand, Eastern Rand, and Far West Rand.

REGIONAL MARKETS

Table showing regional market data for various countries and currencies.

OPTIONS

Table of 3-month call rates for various financial instruments.

TEXTILES

Table of textile stocks including companies like Anglo-Indonesian, Anglo-Siam, and Anglo-Soviet.

TEAS

Table of tea stocks including companies like Anglo-Indonesian and Anglo-Siam.

MINES

Table of mine stocks categorized by region: Central Rand, Eastern Rand, and Far West Rand.

REGIONAL MARKETS

Table showing regional market data for various countries and currencies.

OPTIONS

Table of 3-month call rates for various financial instruments.

NEWSPAPERS, PUBLISHERS

Table of newspaper and publisher stocks including companies like Anglo-Indonesian, Anglo-Siam, and Anglo-Soviet.

MINES

Table of mine stocks categorized by region: Central Rand, Eastern Rand, and Far West Rand.

REGIONAL MARKETS

Table showing regional market data for various countries and currencies.

OPTIONS

Table of 3-month call rates for various financial instruments.

PAPER, PRINTING ADVERTISING

Table of paper, printing, and advertising stocks including companies like Anglo-Indonesian, Anglo-Siam, and Anglo-Soviet.

MINES

Table of mine stocks categorized by region: Central Rand, Eastern Rand, and Far West Rand.

REGIONAL MARKETS

Table showing regional market data for various countries and currencies.

OPTIONS

Table of 3-month call rates for various financial instruments.

INSURANCE

Table of insurance stocks including companies like Anglo-Indonesian, Anglo-Siam, and Anglo-Soviet.

LEISURE

Table of leisure stocks including companies like Anglo-Indonesian, Anglo-Siam, and Anglo-Soviet.



OVERSEAS MOVING BY MICHAEL GERSON... 01-446 1300

Tyre rivals close to pact on standard sizes

BY STUART MARSHALL, MOTORING CORRESPONDENT

PACT ON STANDARD SIZES DUNLOP and Michelin will announce soon that they have agreed proposals for a new international standard for millimetric diameter car tyres and wheel sizes.

sales to the motor industry and gain royalty income from production licenses for other tyre and wheel manufacturers. Dunlop and Michelin have both faced problems with their tyres. Dunlop's Denovo "run-flat" safety tyre has met with little success since it was introduced in the mid-1970s.

of Michelin's high-performance TRX tyre has been widely recognised, it has suffered commercially for a similar reason. It, too, needed a special size of wheel with a unique rim shape.

Dunlop has been working with Porsche in Germany and Jaguar—in this case with Michelin's co-operation—in Britain. Michelin has been working with BMW, the latter a recent convert to the TRX tyre on certain of its models.

Much of the pressure to develop a wheel/tyre package combining the advantages of TRX and Denovo has come from the motor car industry which aims to eliminate the spare wheel to save weight and space, but without incurring extra cost or complication.

While the technological merit

Fears over unbranded drugs use BP Oil's losses mount to £126m on current cost basis

BY TERRY GARRETT

By Sue Cameron, Chemicals Correspondent

HOECHST UK—part of the German-based chemicals conglomerate—has warned that the widespread replacement of brand-named drugs by cheaper generic ones "would eventually destroy the UK pharmaceutical industry."

FULL CURRENT-COST losses from BP Oil Group, the oil refining and marketing arm of British Petroleum in the UK and the Irish Republic, soared from £38m in 1980 to £126m last year. The directors blame the deterioration on surplus capacity in the refining sector, in the UK and throughout Europe. They say there is little prospect of an upturn in demand.

into account the much-increased costs of replacing oil sold.

This item alone wiped £108m (£21m in 1980) of historic-cost profits, producing a operating loss of £84m (a £10m loss in 1980) before tax, interest and extraordinary items. It is this £84m loss which the directors believe realistically reflects the group's performance.

continuing competition generated by the excess of crude oil availability over demand.

As a result we are still operating at a loss against replacement costs. Physical sales of oil products fell by an eighth in 1981, to 15.64m tonnes. Apart from intense competition generated by overcapacity, BP Oil's directors blame the fall in sterling against the dollar and the non-availability of cheaper Saudi Arabian crude.

Mr Brian Cromie, chairman of Hoechst UK's pharmaceutical division, is among those who have launched a strong attack on substitution.

When the parent company announced its 1981 results in mid-March, separate figures for the UK and the Irish Republic refining operations were not disclosed.

The final quarter of 1981 showed some improvement over the previous three quarters. Historic profits amounted to about £7m in the closing three months while the operating loss, after the cost of sales adjustment, was under £4m.

BP announced last year that its Kent refinery was to close in 1982. This will create a £54m exceptional debit in the 1981 accounts. The resulting economies, however, should improve performance by £50m a year from 1983.

On a historic-cost basis BP Oil Group made profits of £23m, compared with £81m in 1980. This, however, is before taking

TUC fight opens on Tebbit Bill

BY JOHN LLOYD, LABOUR EDITOR

"If substitution were allowed, doctors would no longer know what was being dispensed, patients would be confused, products would not have the legal and moral backing of a major manufacturer, drug recalls would be difficult or impossible and the UK pharmaceutical industry, which has made such a major contribution to medicine and to the country's economy, would gradually be lost," he said at the weekend.

EXECUTIVE members from the TUC's 108 affiliated unions meet at Wembley today to begin the campaign which they hope will destroy the Government's Employment Bill.

If Equity continues in its resolve to apply for state aid it will directly flout a TUC decision, binding on all affiliates, not to use Government cash. The actors could then face suspension, or even dismissal from the TUC.

tribunals dealing with cases arising from the legislation; and a 10p per head levy to create a £1m "war" fund.

It claims the increased use of generics would only cut Britain's annual drugs bill by some 3 per cent. And it says this saving would represent only some 50 per cent of the cost of developing a single new medicine. It also warns that the cheapest generic drugs would probably be made abroad.

Union leaders are aware that the outright opposition they have pledged carries a large element of risk, and have laid plans for a massive publicity campaign to rouse their members from their apparent aversion to militant action.

Some disagreement on the uses to which the £1m fund is put is likely. Some unions want the money to be available to help pay unions' legal fees. But other, mainly left-led unions, argue that this would turn the TUC into a collection agency for employers.

Mr Moss Evans, general secretary of the Transport and General Workers Union, the country's largest union, told a conference of trade union delegates at the weekend that "the fight is not one we can afford to lose, nor is it one we can dodge. The issue is quite clear—we are fighting for survival."

Only the 30,000-strong actors' union Equity, has disturbed the appearance of monolithic opposition to the Bill.

Mr Moss Evans, general secretary of the Transport and General Workers Union, the country's largest union, told a conference of trade union delegates at the weekend that "the fight is not one we can afford to lose, nor is it one we can dodge. The issue is quite clear—we are fighting for survival."

Equity's ruling council remains determined to apply for state funds for its union ballots. This is in spite of a 394 to 89 vote supporting an emergency motion condemning the move at its annual conference yesterday.

Drug companies fear that many doctors would not bother.

Bid to agree training strategy

BY ALAN PIKE

The industry's anxiety stems from speculation about an official report that is now at the Department of Health. The report has just been completed by a working party, composed mainly of officials and representatives of the British Medical Association, set up last year to look into the effective prescribing of drugs.

EMPLOYERS AND union leaders will this week try to reach final agreement on proposals for providing all 16-year-old school leavers with a year-long programme of training, work experience and further education.

Government has placed on the scheme. Union leaders are insisting, however, that in addition to set allowances they should be entitled to negotiate topping-up payments for young people on the scheme.

If there are further signs that the Government is disregarding union arguments on the commission—marked by decisions to go ahead with an amended version of the Youth Training Scheme or to privatise important parts of the Jobcentre network—TUC leaders believe that their annual Congress in September might take the decision on whether to withdraw from the MSC out of their hands.

Unanimous agreement by both sides of industry on a Manpower Services Commission task group, which meets again on Thursday, is essential if there is to be any chance of Mr Norman Tebbit, Employment Secretary, being persuaded to extend the scheme into a system of training for all school leavers.

There is also broad agreement that the Government's much-criticised proposed allowances on the new Youth Training Scheme—about £15 per week—are too low.

Possible alternative allowances of £25, £27.50 and £30 have been considered during the task group's discussions. The group believes that at least the lowest of these could be met within the £1.1bn financial ceiling which the

Nott warning Continued from Page 1

although most of the negotiations were currently being carried out within the United Nations. The U.S. is reported to have ruled out the imposition of immediate economic sanctions by Washington on Argentina, although it is prepared to review its current cautious attitude if diplomatic efforts fail and the prospect of a confrontation between two of its allies becomes more likely.

claims made it clear yesterday that the U.S. opposed the use of force by Britain. Almost all South American countries support Argentina's claims over the windswept south Atlantic islands just north of the Antarctic. The Foreign Office is bracing itself for a major battle to prevent Third World criticism of Britain's military moves. The United Nations Security Council condemned Argentina on a Saturday night but called for a diplomatic solution of the

City concern Continued from Page 1

played down the importance of the market. Total British investment in Argentina in 1979 was estimated to be worth £200m at book value by the Trade Department, although this may be a considerable under-estimate.

The Bank of London and South America (Bolsa), part of the Lloyds Bank Group, is likely to be among the hardest hit of any UK companies. It is not only a major lender to Argentina but has one of the biggest operations of any foreign bank in the country.

MPs with doubts about the practicability of military action fearing another fiasco like Suez have generally kept quiet, hoping that the mood will become less jingoistic with time.

Mr Ray Whitney, the MP for High Wycombe and a former diplomat with experience of the issue, was strongly attacked in the Commons from his own side when he stressed the practical

Continued from Page 1

Tory revolt

The failures of the last few weeks mean, on his view, that it is only after killing a few of them and putting a Union Jack there that the Tory Party will be in a mood to be magnanimous and start negotiations.

Widespread anger after Mr Nott's inept speech on Saturday was partly cooled at a private meeting of the back-bench foreign and defence committees where the Tory Party's tribal loyalties reasserted themselves. The view of loyalists was that the Government should be given the benefit of the doubt for the time being and that Mr Nott and Lord Carrington should be given a chance to redeem themselves.

MPs with doubts about the practicability of military action fearing another fiasco like Suez have generally kept quiet, hoping that the mood will become less jingoistic with time.

Chandler to retain Neddy position

By John Elliott, Industrial Editor

MR GEOFFREY CHANDLER is to be re-appointed director general of the National Economic Development Office for about one year.

His first four-year term, in the £30,000-£35,000 a year job, expires in June. He is thought to have agreed with Sir Geoffrey Howe, the Chancellor, that he should be re-appointed for about a year to give both him and the Government time to consider longer-term arrangements.

An announcement is likely soon, possibly at the monthly meeting of the National Economic Development Council on Wednesday.

Mr Chandler, 59, joined the Neddy in 1978 after a long career in Shell, before which he had been a journalist on the Financial Times.

Strategy

At times he has been a controversial director-general, making a series of speeches which have criticised the Government for not trying harder to achieve consensus for its policies.

He has also called for a more positive industrial strategy and for some form of incomes policy and at times has annoyed leaders of the CBI and TUC, as well as senior ministers and civil servants, with his carefully judged outspokenness.

But it would have been difficult for the Government to refuse to renew his contract without running the risk of the sort of row which has blown up around the Manpower Services Commission, following the announcement three months ago that Sir Richard O'Brien, its chairman, was to be replaced.

In any case, Mr Chandler is thought to have run the Neddy well, providing good policy papers and other support services both for the council and for its 50 little Neddies and sector working parties.

So a re-appointment period of about a year emerged as the most likely solution and was being finalised just before the weekend.

Weather

UK TODAY

WARM in many parts though cooler with rain and mist in others. SE, NW, Central England, E. Anglia, E. Midlands, S.W. Scotland, N. Ireland. Cloudy with showers. Bright intervals. Max 16C (61F). S.W. England, W. Midlands, Wales. Rain, perhaps heavy. Max 13C (55F). E., N.E. England. Mainly dry and bright. Max 15C (61F). Rest of Scotland. Mainly dry after rain. Sunny intervals. Max 15C (59F). Outlook: Dry in North. Thundery rain in South.

WORLDWIDE

Table with 4 columns: City, Y'day, Midday, Y'day. Lists cities like Ajaccio, Algiers, Amst'dam, Athens, Bahrain, Barcelona, Beirut, Belgrade, Berlin, Bilbao, Bombay, Brno, Bucharest, Budapest, Cairo, Cardiff, Catania, Cape T., Cebu, Cologne, Copenhagen, Dublin, Edinburgh, Faro, Florence, Frankfurt, Geneva, Gijon, Gibraltar, Hanoi, Harbin, Havana, Helsinki, Hong Kong, Innsbruck, I.O.M., Istanbul, Jersey, Johannesburg, Kuala Lumpur, London, Lyons, Madrid, Manila, Mexico, Milan, Moscow, Nicosia, Oslo, Ottawa, Panama, Paris, Perth, Prague, Reykjavik, Rome, Santiago, Sao Paulo, Seville, Singapore, Stockholm, Taipei, Toronto, Trieste, Tunis, Warsaw, Wellington, Zurich.

THE LEX COLUMN When companies can buy in

Public companies can start to think seriously now about the circumstances in which they might buy in their own shares. The Chancellor's Budget speech made clear that some of the tax obstacles preventing private, but not listed, companies from doing so would be removed.

However, one of the more obscure clauses of the Finance Bill now appears to suggest that a list has been opened up for listed companies wanting to do the same thing, albeit at a cost. There is not going to be any revolution in corporate financial management, but at least it seems that the range of options open to companies is to be widened slightly.

The 1981 Companies Act makes it legal for the first time, broadly speaking, for UK companies to buy in their own shares. The relevant laws are expected to be enacted in the next few weeks. The theoretical attraction of buying-in shares for a public company is that it allows surplus cash to be released to shareholders—who can reinvest it in companies which actually need the capital.

By operating through the market the company will still have to pay advance Corporation Tax—but this will not be too great a burden where sufficient mainstream corporation tax liability is available. Meanwhile, instead of income tax, the shareholders become liable to capital gains tax on their profits, with the normal offsets of exemptions and, in future, the benefit of indexation. Sellers presumably would tend to have appropriate tax positions.

So public companies will be indifferent in tax terms as to whether they buy in shares or pay out extra dividends. But there is still a question-mark over how popular such capital shrinkage through own-share purchases will prove, especially as this route will tend to allow buying in of shares on only a small scale each year. Buying out hostile holders of stock may still carry a tax penalty—since a pure market transaction might be difficult to arrange. Nor will companies be able to use the legislation as a temporary way of absorbing cash

and thereby avoiding tax on interest, since the shares must be cancelled and cannot be fed out when cash is needed again. Nevertheless, some companies, notably those for which cash represents a high proportion of their market value—may find themselves under unaccustomed pressure from shareholders to take this course.

Laird Group

Thanks to its successful specialist divisions in transport engineering and long distance conveyor belts the Laird Group continues to weather the recession in solid style. A rise of almost a quarter in pre-tax profits for 1981 to £16.5m, however, does not allow for dilution after creating equity issues, and earnings per share are only fractionally up at 19p. Still, there is current cost cover of more than three times for a yield of 4.6 per cent at 125p.

A brief boom (now fading) in UK bus deliveries put some icing on the cake of the rapid transit train business, so that pre-interest profits from transport systems rose from £7m, to almost £10m in 1981. Specialist engineering, soon to be expanded by the addition of a new conveyor factory, improved from £3.4m to about £5m. Elsewhere, however, the picture proved patchy—the American Twist Drill company bought in 1980, for instance, was hit by the U.S. recession.

In 1982 trains and conveyor systems should continue to show reasonable growth and there could be an upturn in the continental motor components subsidiaries. On the other hand, the bus market is weaker. Overall, profits could be up a little, and Laird ended last year with net cash. But in the slightly longer run it needs to show that its diversification policy can pay off, so far it does not look as though the U.S. acquisitions have covered their financing costs.

TRAIL BLAZERS advertisement for Clwyd Corporation. Includes text: 'Our search for the best possible site covered many areas throughout the UK and Wrexham proved to be the ideal location... with its close proximity to major UK markets.' and 'Clwyd offers you great potential in North East Wales'. Includes a photo of a man and a large Clwyd logo.